



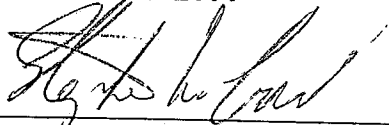
North Mississippi Refuges Complex including:

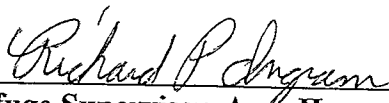
Dahomey National Wildlife Refuge, Tallahatchie National Wildlife
Refuge and Coldwater River National Wildlife Refuge

Annual Narrative

Grenada, Mississippi

Calendar Year 2004

 2/24/05
Project Leader Date
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 3/7/05
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INTRODUCTION

The North Mississippi Refuges Complex (NMRC) was established in Grenada, Mississippi in 1989, primarily to manage the increased land base acquired through the transfer of properties to the U.S. Fish and Wildlife Service (Service) by the Farmers Home Administration (FmHA), now the Farm Service Administration, and the acquisition of the **Dahomey, Coldwater River, and Tallahatchie National Wildlife Refuges** (NWR). At that time, there were no other stations in an appropriate geographical location to manage these lands. After several management decisions and boundary changes, NMRC's final geographical boundaries contained 26 counties in northern Mississippi. NMRC is divided into three work areas. Each work area is comprised of one refuge and all FmHA properties within that area (Figure 1).

FmHA Lands are properties that the United States Department of Agriculture (USDA) foreclosed on, or the owner voluntarily deeded his land back to the USDA due to lack of payment on loans. The original owner was given the right to buy back the land, but Executive Order 11990 required wetlands on these properties to be set aside or protected. Most of the properties the original owners did not buy back were transferred in fee title to the Service. Other such properties were purchased by the original owner, but were subject to restrictive USDA easements. Easement management responsibilities of these properties were transferred to the service and are considered units of the National Wildlife Refuge System. **FmHA Lands** range from 1 acre to over 1,200 acres in size and are categorized as follows:

- 1) **Fee Title Properties:** These properties are now considered public land and are managed as units of the National Wildlife Refuge System.
- 2) **Conservation Easements:** The ownership of these properties remains in the private sector, but the Service retains most management rights. For example, these lands can no longer be farmed and the Service is allowed to mow, install water control structures, build levees, burn, plant seedlings or acorns, and manage water levels.
- 3) **Flood Plain Easements:** The least restrictive of the two easements, the ownership remains in the private sector with restrictions which prohibit degradation of the existing flood plain values. The land owner is usually allowed to farm acreage that was previously in cultivation, but the easement prevents further draining or clearing of the land. These easements often contain, smaller, more restrictive conservation easements within their boundaries.

In 1989, there were four recorded easements for a total land base of 1,070 acres. As of 2004, NMRC manages three traditional **NWRs** totaling 16,418 fee title acres, 48 **FmHA Fee Title** transfers totaling 10,684 acres, 58 **Conservation Easements** totaling 4,368 acres, and 22 **Floodplain Easements** totaling 2,160 acres (Figure 2 and Table 1). The NMRC now manages 128 FmHA tracts and three NWRs totaling 33,630 acres.

North Mississippi Refuges Complex Coldwater River, Dahomey, and Tallahatchie NWR's Mississippi, USA

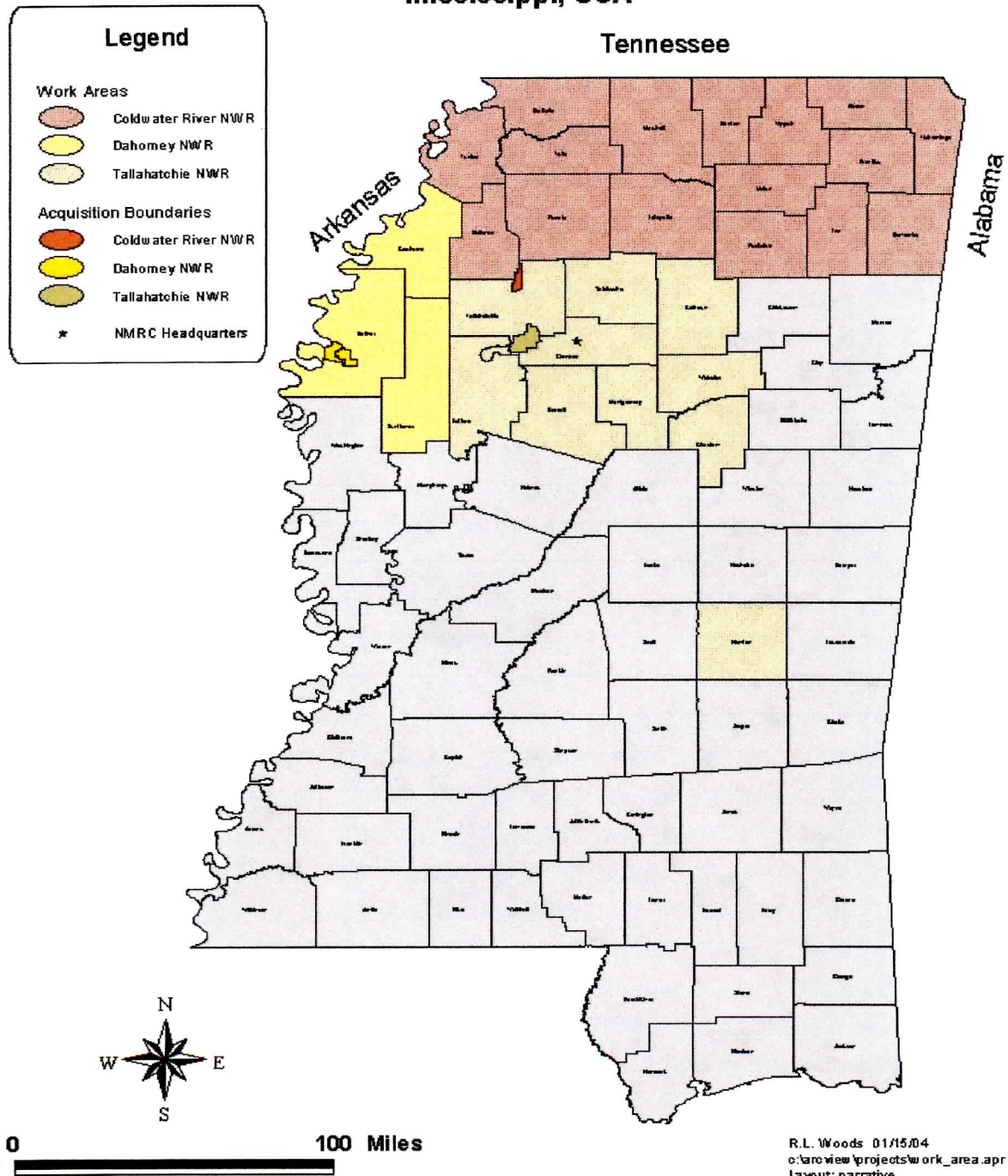


Figure 1. Refuge Work Area Locations for NMRC

North Mississippi Refuges Complex

Counties containing majority of FmHA properties
(9 counties, 109 properties shown; 6 counties, 19 properties not shown)

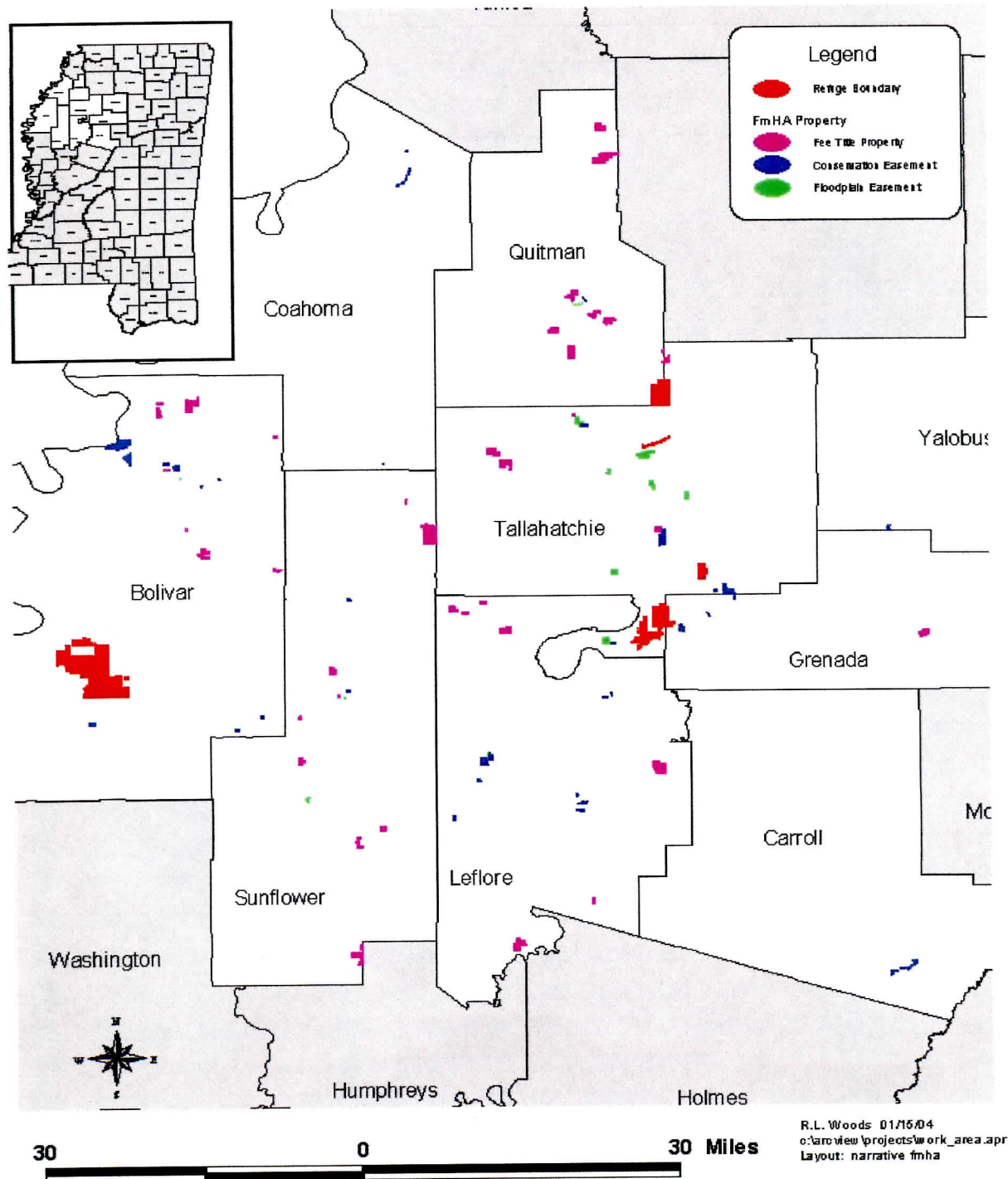


Figure 2. The Nine Counties Which Contain Most of the Properties Administered by NMRC. Six Counties with properties are not Shown.

Table 1. Properties managed by North Mississippi Refuge Complex

REFUGE PROPERTIES								
NAME	COUNTY	ACRES	ESTATE	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	YEAR ACQUIRED	LAT/LON
Dahomey NWR								
						T22N R7W SEC. 17, 19, 22 & 27-34; T21N R7W SEC. 1-4 & 9-12		
Allen Gray Estate/TNC	BOLIVAR	9,269	Fee Title	CHOCTAW, PACE	BEULAH, LOBDELL		1993	33°42'N 90°55'W
MS Dept of Trans. (DOT)	BOLIVAR	162	Fee Title	CHOCTAW	LOBDELL	T22N R7W SEC. 34	1991	33°42'N 90°54'W
West Boliver Co. School Board	BOLIVAR	260	Lease	CHOCTAW, PACE	BEULAH, LOBDELL	T22N R7W SEC. 16	N/A	33°45'N 90°09'W
DAHOMNEY NWR	TOTAL ACRES		9,691					
TALLAHATCHIE NWR								
						T23N R2E SEC. 21, 22 & 28		
Walker Tract	TALLAHATCHIE	557	Fee Title	PHILIPP	CASCILLA		1991	30°50'N 90°05'W
	GRENADA, TALLAHATCHIE					T22N R1E SEC.13 & 24; T22N R2E SEC. 18		
John Whitten		509	Fee Title	PHILIPP	PHILIPP		1992	33°45'N 90°08'W
	GRENADA, TALLAHATCHIE					T22N R1E SEC. 1, 12 & 13; T22N R2E SEC. 7 & 13		
John Hancock		1,361	Fee Title	PHILIPP	PHILIPP		1992	33°47'N 90°08'W
				GREENWOOD, PHILIPP		T22N R1E SEC. 14, 22-27 & 34		
Chicago Mills/DOT	TALLAHATCHIE	1,656	Fee Title		MONEY, PHILIPP		1997	33°45'N 90°09'W
Sayle Tract	TALLAHATCHIE	116	Fee Title	PHILIPP	PHILIPP	T22N R1E SEC. 24	2003	33°45'N 90°08'W
TALLAHATCHIE NWR	TOTAL ACRES		4,199					
COLDWATER RIVER NWR								
						T26N R2E SEC. 30 & 31; T26N R1E SEC. 25 & 36		
Travelers Insurance	QUITMAN, TALLAHATCHIE	1,730	Fee Title	CROWDER	FISH HOOK LAKE		1991	34°5'N 90°08'W
						T26N R2E SEC. 7		
Shiele Tract	TALLAHATCHIE	40	Fee Title	CROWDER	CROWDER		1996	34°8'N 90°08'W
	QUITMAN, TALLAHATCHIE					T26N R2E SEC. 19; T26N R1E SEC. 24		
Duck Ponds Inc.		298	Fee Title	CROWDER	FISH HOOK LAKE		1996	34°6'N 90°08'W
						T25N R1E SEC. 23 & 24; T25N R2E SEC. 18 & 19		
Warwick Tract	TALLAHATCHIE	306	Fee Title	CROWDER	FISH HOOK LAKE		2001	
COLDWATER RIVER NWR	TOTAL ACRES		2,374					
FmHA FEE TITLE PROPERTIES								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
CARMICL	BOLIVAR	40	14.00	PACE	SHELBY	T24N R6W SEC. 26	07/26/91	33°54'N 90°47'W
						T26N R6W SEC. 35 & 36; T25N R6W SEC. 2		
GOSS	BOLIVAR	543	17.00	MELLWOOD	ROUND LAKE		07/14/94	34°05'N 90°47'W
		389	13.00	PACE	PACE	T23N R6W SEC. 1	07/26/91	33°52'N 90°46'W
HESTER, T. III	BOLIVAR	40	12.00	CLARKSDALE	DUNCAN	T25N R5W SEC. 13	07/26/91	34°02'N 90°40'W
HOLCOMB, D.	BOLIVAR	50	18.00	PACE	SHELBY	T25N R6W SEC. 33	09/27/94	33°59'N 90°49'W
RAY	BOLIVAR	100	11.00	MOUND BAYOU	MERIGOLD	T23N R5W SEC. 13	07/26/91	33°50'N 90°40'W
RILEY	BOLIVAR	214	16.00	MELLWOOD	ROUND LAKE	T25N R6W SEC. 4	07/31/92	34°04'N 90°50'W
WATTS, J.	BOLIVAR	81	16.00	MELLWOOD	ROUND LAKE	T26N R6W SEC. 33	07/31/92	34°04'N 90°49'W
WATTS, J.	BOLIVAR	245	11.00	GRENADA	GRENADA	T22N R5E SEC. 21	07/14/93	33°45'N 89°46'W
GILLON	GRENADA	343	16.00	SUMNER	GLENDORA	T22N R2W SEC. 13 & 24	02/19/92	33°45'N 90°21'W
GWIN	LEFLORE	165	19.00	MOSSY LAKE	MONTGOMERY	T17N R1W SEC. 19	07/15/92	33°19'N 90°20'W
HENSON	LEFLORE	275	no	MOSSY LAKE	MONTGOMERY	T17N R1W SEC. 19	?	33°19'N 90°20'W
HENSON / A.C.O.E.	LEFLORE	40	18.00	MOSSY LAKE	MONTGOMERY	T17N R1W SEC. 18	04/18/92	33°19'N 90°20'W
KIMBROUGH, A.M.	LEFLORE	2	17.00	SEVEN PINE	SIDON	T18N R1E SEC. 30	03/05/92	33°23'N 90°14'W
MILLICAN, H.	LEFLORE	76	17.00	SEVEN PINE	SIDON	T18N R1E SEC. 31	03/05/92	33°23'N 90°14'W
MILLICAN, H.	LEFLORE	655	14.00	GREENWOOD	GREENWOOD	T20N R1E SEC. 24 & 25	10/02/90	33°34'N 90°08'W
ROBERTSON	LEFLORE	226	20.00	SUMNER	BROOKS	T22N R2W SEC. 8	09/01/94	33°47'N 90°23'W
SCOTT	LEFLORE	80	20.00	SUMNER	BROOKS	T22N R2W SEC. 3	09/01/94	33°48'N 90°23'W
SCOTT	LEFLORE	90	20.00	SUMNER	BROOKS	T22N R2W SEC. 9	09/01/94	33°47'N 90°24'W
SMITH, E.	MARSHALL	232	10.00	POTTS CAMP	MALONE	T5S R2W SEC. 28 & 29		34°37'N 89°25'W
						T6S R1W SEC. 6 & 7; T6S R2W SEC.1		
WHALEY	MARSHALL	437	11.00	POTTS CAMP	BETHLEHEM			34°35'N 89°21'W
						T27N R1W SEC. 11, 12 & 14		
BUTLER	QUITMAN	245		TUTWILER	LAMBERT		04/01/99	34°13'N 90°15'W
		59	10.00	TUTWILER	LAMBERT	T27N R1W SEC. 11	11/06/90	34°13'N 90°16'W
SAVAGE, E.	QUITMAN	40	13.00	CROWDER	CROWDER	T26N R1E SEC. 1	09/01/93	34°08'N 90°08'W
SAVAGE, P.	QUITMAN	20	13.00	CROWDER	CROWDER	T26N R1E SEC. 12	09/01/93	34°07'N 90°08'W
SAVAGE, P.	QUITMAN	750	12.00	SLEDGE	CRENSHAW SOUTH	T8S R10W SEC. 1 & 2	06/02/91	34°25'N 90°13'W
STARR, R.	QUITMAN	320	12.00	SLEDGE	CRENSHAW SOUTH	T7S R10W SEC. 23	06/02/91	34°27'N 90°13'W
STARR, R.	QUITMAN	382	11.00	TUTWILER	LAMBERT	T26N R1W SEC. 2 & 11	11/06/90	34°09'N 90°15'W
TRAINOR / BOYD	QUITMAN	219	11.00	CROWDER	CROWDER	T27N R1E SEC. 19 & 20	11/06/90	34°12'N 90°14'W
TRAINOR / BOYD	QUITMAN	188	11.00	CROWDER	CROWDER	T27N R1E SEC. 20, 21 & 29	11/06/90	34°11'N 90°12'W
TRAINOR / BOYD	QUITMAN	228	11.00	TUTWILER	LAMBERT	T27N R1W SEC. 27	11/06/90	34°10'N 90°17'W
BOWLING	SUNFLOWER	170	14.00	BAIRD	MOOREHEAD	T19N R3W SEC. 29	12/06/91	33°29'N 90°31'W
LINDSEY, L.	SUNFLOWER	160	13.00	CLEVELAND	BOYER	T20N R4W SEC. 17	07/26/91	33°34'N 90°38'W
LINDSEY, L.	SUNFLOWER	40	13.00	CLEVELAND	RULEVILLE	T21N R4W SEC. 14	07/26/91	33°40'N 90°35'W
LINDSEY, L.	SUNFLOWER	204	13.00	CLEVELAND	RULEVILLE	T22N R4W SEC. 3	07/26/91	33°42'N 90°35'W
POVALL / KITCHENS	SUNFLOWER	180	11.00	BAIRD	MOOREHEAD	T19N R4W SEC. 25	11/06/90	33°27'N 90°33'W
POVALL / KITCHENS	SUNFLOWER	422	11.00	BAIRD	INVERNESS	T17N R4W SEC. 24 & 25	11/06/90	33°18'N 90°33'W
POVALL / KITCHENS	SUNFLOWER	80	11.00	BAIRD	INVERNESS	T17N R4W SEC. 13 & 18	11/06/90	33°19'N 90°33'W
WALKER	SUNFLOWER	42	10.00	CLEVELAND	CLEVELAND	T21N R4W SEC. 29	10/02/90	33°38'N 90°38'W
PATTERSON / WHITTEN	SUNFLOWER	46	15.00	SUMNER	ROME	T24N R3W SEC. 15 & 22	09/01/94	33°56'N 90°29'W
						T24N R3W SEC. 35 & 36; T23N R3W SEC. 1		
WILKINS	SUNFLOWER	1,204	12.00	SUMNER	ROME		05/02/91	33°54'N 90°22'W
CASTLEBERRY	TALLAHATCHIE	94	12.00	CROWDER	CROWDER	T26N R2E SEC. 7	11/01/93	34°07'N 90°07'W
JAMES	TALLAHATCHIE	160	10.00	PHILLIP	TIPPO	T24N R1E SEC. 36	10/11/90	33°54'N 90°08'W
PENNINGTON	TALLAHATCHIE	470	17.00	SUMNER	WEBB & VANCE	T25N R2W SEC.36		33°59'N 90°21'W
PENNINGTON	TALLAHATCHIE	360	17.00	TUTWILER	TUTWILER & VANCE	T25N R2W SEC. 26		34°00'N 90°22'W
PENNINGTON	TALLAHATCHIE	40	17.00	TUTWILER	VANCE	T25N R1W SEC. 2		34°03'N 90°15'W
FOOSHIE / SMITH	UNION	104	10.00	NEW ALBANY	NEW ALBANY WEST	T7S R2E SEC. 32 & 33	07/22/94	34°26'N 89°06'W
					ETTA, NEW ALBANY WEST			
FOOSHIE / SMITH	UNION	134	10.00	NEW ALBANY		T7S R2E SEC. 31 & 32	07/22/94	34°26'N 89°07'W
48 FEE TITLE PROPERTIES IN 8 COUNTIES		10,684 ACRES						

Table 1. Properties managed by North Mississippi Refuge Complex

FmHA CONSERVATION EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
BELL / GRAB	ALCORN	40	10C	WALNUT	CHALYBEATE	T2S R5E SEC. 29	11/25/91	34°53'N 88°47'W
TURNER / TALLEY	ALCORN	8	11C	CORINTH	KUSSUTH NORTH	T1S R6E SEC. 35	02/22/95	34°57'N 88°37'W
BALDUCCI	BOLIVAR	12	19C	MOUND BAYOU	MOUND BAYOU	T24N R5W SEC. 6	10/13/95	33°58'N 90°45'W
BALDUCCI	BOLIVAR	12	19C	PAGE	SHELBY	T24N R6W SEC. 1	10/13/95	33°58'N 90°46'W
BASS, B.H.	BOLIVAR	69	15C	PAGE	SHELBY	T25N R6W SEC. 33	04/21/92	33°59'N 90°49'W
BASS, B.H.	BOLIVAR	277	15C	MELLWOOD	LACONIA, ROUND LAKE & SHELBY	T25N R7W SEC. 25 & 36	04/21/92	34°00'N 90°52'W
BASS, B.H.	BOLIVAR	723	15C	MELLWOOD	LACONIA & ROUND LAKE	T25N R7W SEC. 23 & 24	04/21/92	34°01'N 90°52'W
CLIFTON, R.	BOLIVAR	97	10C	CHOCTAW	LOBDELL	T21N R7W SEC. 28	12/18/89	33°08'N 90°55'W
HESTER, T. JR.	BOLIVAR	55		PAGE	SHELBY	T25N R6W SEC. 34		33°59'N 90°48'W
HESTER, T. JR.	BOLIVAR	35		PAGE	SHELBY	T25N R6W SEC. 34		33°59'N 90°48'W
McCLURE, J.	BOLIVAR	40		CLEVELAND	CLEVELAND	T21N R4W SEC. 26		33°47'N 90°43'W
McCLURE, J.	BOLIVAR	40		CLEVELAND	CLEVELAND	T21N R5W SEC. 33		33°38'N 90°41'W
CALHOUN / DANCE	CARROLL	149	10C	COILA	PEACHAHALA CREEK	T17N R5E SEC. 31 & 32		33°17'N 89°47'W
CALHOUN / DANCE	CARROLL	57	10C	COILA	PEACHAHALA CREEK	T16N R5E SEC. 6		33°16'N 89°49'W
CALHOUN / DANCE	CARROLL	16	10C	COILA	PEACHAHALA CREEK	T17N R5E SEC. 31		33°17'N 89°48'W
ALLEN	COAHOMA	4	11C	MARKS	LULA	T30N R3W SEC. 34		34°25'N 90°29'W
ALLEN	COAHOMA	52	11C	MARKS	LULA	T29N R3W SEC. 10 & 15		34°22'N 90°29'W
ALLEN	COAHOMA	31	11C	MARKS	LULA	T29N R3W SEC. 10 & 11		34°23'N 90°29'W
ALLEN	COAHOMA	30	11C	MARKS, FARRELL	LULA	T29N R3W SEC. 15		34°22'N 90°30'W
SAFLEY / BRADY	COAHOMA	13	10C	MOUND BAYOU	BALTZER	T25N R3W SEC. 32	02/26/90	33°59'N 90°31'W
STATEN	GRENADE	74	12C	PHILIPP	CASCILLA	T22N R2E SEC. 17 & 20		33°45'N 90°06'W
HARRIS, W.L.	GRENADE	18	10C	PHILIPP	CASCILLA	T22N R2E SEC. 10		33°46'N 90°04'W
MOOR, R.B.	LEFLORE	11	15C	GREENWOOD	GREENWOOD	T19N R1W SEC. 12	11/29/90	33°31'N 90°14'W
MOOR, R.B.	LEFLORE	77	15C	GREENWOOD & SCHLATER	GREENWOOD & SHELLMOUND	T19N R1W SEC. 12	11/29/90	33°31'N 90°15'W
MOOR, R.B.	LEFLORE	17	15C	SCHLATER	SHELLMOUND	T19N R1W SEC. 12	11/29/90	33°31'N 90°15'W
MOOR, R.B.	LEFLORE	58	15C	SCHLATER	GREENWOOD & SHELLMOUND	T19N R1W SEC. 13	11/29/90	33°30'N 90°15'W
TRIBBLE	LEFLORE	12		GREENWOOD	MONEY	T21N R1E SEC. 20		33°40'N 90°12'W
TRIBBLE	LEFLORE	28		GREENWOOD	MONEY	T21N R1E SEC. 20		33°40'N 90°13'W
HAWKINS	LEFLORE	33	12C	SCHLATER	BEAR CUT BAYOU	T20N R2W SEC. 34	09/20/90	33°33'N 90°23'W
KOLLE, R	LEFLORE	109	10C	SCHLATER	SHELL MOUND	T20N R2W SEC. 23	05/04/90	33°35'N 90°22'W
UPCHURCH / PRESTRIDGE	LEFLORE	250	11C	SCHLATER	BEAR CUT BAYOU	T20N R2W SEC. 22, 26 & 27	10/01/90	33°34'N 90°23'W
SAUNDERS	LEFLORE	15	13C	MOSSY LAKE & SCHLATER	COLONY TOWN	T19N R2W SEC. 20	07/09/90	33°30'N 90°25'W
SAUNDERS	LEFLORE	45	13C	MOSSY LAKE & SCHLATER	COLONY TOWN	T19N R2W SEC. 20	07/09/90	33°30'N 90°25'W
TRAINOR, E. L.	QUITMAN	6	16C	CROWDER	CROWDER	T27N R1W SEC. 12 & 13	01/01/98	34°13'N 90°14'W
MOSES	SUNFLOWER	25			DREW	T22N R4W SEC. 1		
POWELL	SUNFLOWER	40	16C	CLEVELAND	RULEVILLE	T21N R4W SEC. 11		33°40'N 90°34'W
DAVIS, HIRAM	TALLAHATCHIE	17	13C	PHILIPP	MONEY	T22N R1E SEC. 29	02/15/90	33°44'N 90°12'W
DENMAN	TALLAHATCHIE	8	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°59'N 90°12'W
DENMAN	TALLAHATCHIE	6	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°58'N 90°12'W
DENMAN	TALLAHATCHIE	6	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°58'N 90°12'W
HARRIS, W.L.	TALLA, GRENA.	389	10C	PHILIPP	CASCILLA	T23N R2E SEC. 35 & 36; T22N R2E SEC. 1	04/28/89	33°48'N 90°03'W
HARRIS, W.L.	TALLAHATCHIE	40	10C	PHILIPP	CASCILLA	T23N R2E SEC. 34	04/28/89	33°48'N 90°04'W
MABUS	TALLAHATCHIE	42	16C	CROWDER	FISH HOOK LAKE	T25N R1E SEC. 26 & 27		34°00'N 90°10'W
MABUS	TALLAHATCHIE	416	16C	PHILLIP	PHILIPP & TIPPO	T24N R1E SEC. 36; T23N R1E SEC. 1 & 12		33°53'N 90°08'W
MABUS	TALLAHATCHIE	7	16C	PHILLIP	PHILIPP	T23N R1E SEC. 21		33°50'N 90°12'W
MACKEY / GASTON, J.	TALLAHATCHIE	81	11C	CROWDER & TUTWILER	CROWDER	T25N R1W SEC. 12	11/02/90	34°02'N 90°14'W
MILAM	TALLAHATCHIE	3		PHILIPP	TIPPO	T24N R1E SEC. 11	10/22/98	33°57'N 90°09'W
MILAM	TALLAHATCHIE	40		PHILIPP	TIPPO	T24N R1E SEC. 12	10/22/98	33°57'N 90°09'W
SHOOK	TALLAHATCHIE	35	15C	PHILIPP	PAYNES	T24N R2E SEC. 17	07/14/95	33°57'N 90°06'W
BENSON	UNION	76		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°27'N 89°12'W
BENSON	UNION	1		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°27'N 89°12'W
BENSON	UNION	2		NEW ALBANY	ETTA	T7S R1E SEC. 20 & 21	07/01/99	34°27'N 89°12'W
BENSON	UNION	26		NEW ALBANY	ETTA	T7S R1E SEC. 17 & 20	07/01/99	34°28'N 89°13'W
BENSON	UNION	6		NEW ALBANY	ETTA	T7S R1E SEC. 17	07/01/99	34°28'N 89°12'W
BENSON	UNION	2		NEW ALBANY	ETTA	T7S R1E SEC. 17	07/01/99	34°28'N 89°12'W
HARRIS, W.L.	WEBS., CHOC.	515	10C	not available	EUPORA & SAPA	T19N R10E SEC. 9, 10 & 15	04/28/89	33°31'N 89°14'W
HOLLAND / BOONE	YALOBUSHA	37		GRENADE	SCOBEE	T25N R4E SEC. 36		33°59'N 89°49'W
58 CONSERV. EASEMENTS IN 14 COUNTIES		4,330	ACRES					

FmHA FLOODPLAIN EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
HESTER, T. JR.	BOLIVAR	4		PAGE	SHELBY	T24N R6W SEC. 3		33°59'N 90°48'W
STATEN	GRENADE	190	12C	PHILIPP	CASCILLA	T22N R2E SEC. 17 & 20	07/14/95	33°45'N 90°06'W
KOLLE, R	LEFLORE	191	10C	SCHLATER	SHELL MOUND	T20N R2W SEC. 23	05/04/90	33°53'N 90°22'W
McCLATCHY	MARSHALL	124	12C	TYRO	MARIANNA	T4S R3W SEC. 22		34°43'N 89°30'W
TRAINOR, E. L.	QUITMAN	3		TUTWILER	LAMBERT	T27N R1W SEC. 13 & 14	01/01/98	34°12'N 90°15'W
TRAINOR, E. L.	QUITMAN	16		CROWDER & TUTWILER	CROWDER & LAMBERT	T27N R1W SEC. 13	01/01/98	34°12'N 90°15'W
POWELL	SUNFLOWER	1		CLEVELAND	RULEVILLE	T21N R4W SEC. 14		
POWELL	SUNFLOWER	7		CLEVELAND	RULEVILLE	T21N R4W SEC. 14		33°40'N 90°34'W
POWELL	SUNFLOWER	21		CLEVELAND	BOYER & SUNFLOWER	T20N R4W SEC. 32		33°31'N 90°37'W
POWELL	SUNFLOWER	24		CLEVELAND	BOYER	T19N R4W SEC. 5		33°31'N 90°37'W
DAVIS, HIRAM	TALLAHATCHIE	240	13C	PHILIPP	MONEY	T22N R1E SEC. 29		33°44'N 90°13'W
DENMAN	TALLAHATCHIE	77	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°58'N 90°12'W
MABUS	TALLAHATCHIE	429	16C	CROWDER	FISH HOOK LAKE	T25N R1E SEC. 25 & 26		34°00'N 90°09'W
MABUS	TALLAHATCHIE	168	16C	PHILIPP	PHILIPP	T23N R1E SEC. 20 & 21		33°50'N 90°12'W
MACKEY / GASTON, J.	TALLAHATCHIE	217	11C	CROWDER & TUTWILER	CROWDER & VANCE	T25N R1W SEC. 12	11/02/90	34°03'N 90°15'W
MILAM	TALLAHATCHIE	160		PHILIPP	TIPPO	T24N R1E SEC. 11 & 12	10/22/98	33°57'N 90°09'W
SHOOK	TALLAHATCHIE	160	15C	PHILIPP	PAYNES	T24N R2E SEC. 17	07/14/95	33°56'N 90°06'W
BENSON	UNION	43		NEW ALBANY	ETTA	T7S R1E SEC. 17	07/01/99	34°28'N 89°12'W
BENSON	UNION	36		NEW ALBANY	ETTA	T7S R1E SEC. 20	07/01/99	34°27'N 89°13'W
BENSON	UNION	36		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°28'N 89°13'W
BENSON	UNION	13		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°27'N 89°12'W
22 FLOODPLAIN EASEMENTS IN 9 COUNTIES		2,160	ACRES					

The majority of the lands in the NMRC are within the Mississippi River Alluvial Valley (MAV), referred to locally as the “Delta” where topography is relatively flat and the soil consists of heavy clay hydric soils that have been subject to extensive clearing and drainage efforts. Originally, these lands were bottomland hardwood forest comprised of species such as bald cypress, water oak, willow oak, Nuttall oak, overcup oak, water hickory, tupelo gum, red maple, sweet gum, green ash, cottonwood, black willow, and cane.

Since the NMRC was established, the thrust has been the creation, restoration and enhancement of wetlands on public and private lands. Most of the station’s work has been on properties managed by the Service, but oftentimes, we assist and work with diverse stakeholders such as the Mississippi Department of Wildlife, Fisheries and Parks (MDWFP), the Mississippi Department of Transportation (MDOT), Ducks Unlimited (DU), the Delta Wildlife Foundation, the U.S. Army Corps of Engineers (CORP), USDA Forest Service, private and cooperate landowners, and we assist a local middle school’s effort to provide an outdoor environmental classroom program. Projects with these agencies and organizations are usually done through a Partners Project and habitat management agreements. With few exceptions, NMRC’s contributions on projects with these stakeholders consists of constructing earthen levees, install water control structures (WCS) and planting bottomland hardwood seedlings. The NMRC complex has grown rapidly, and provides habitat for large concentrations of wintering waterfowl and numerous species of neotropical migrants.

Dahomey National Wildlife Refuge

Dahomey NWR is located in Bolivar County, Mississippi in the western part of the NMRC near the Mississippi River (Figure 1 and 3). The Dahomey NWR work area contains 4,005 acres of fee title FmHA properties, 1,554 acres of conservation easements, and 57 acres of floodplain easements (Table 2). In 1990, the Nature Conservancy purchased 9,269 acres from the Allen Gray Estate and leased the land back to the Service for management. In 1993, the Service completed acquisition of the Nature Conservancy lands. One additional 162 acre tract was purchased by the MDOT and turned over to the Service in 1991. A 260-acre 16th section tract is leased from the West Bolivar School Board bringing the refuge land base total to 9,961 acres.

Staffing and management of Dahomey began on a limited basis in 1991. Dahomey is presently staffed by Refuge Manager (RM) Alejandro Galvan and Engineering Equipment Operator (EO) Don Roby.

The primary goal of the NMRC is to maintain, manage, enhance, and restore the values and functions of the alluvial habitats within the Dahomey NWR. The primary habitat that historically occurred in the alluvial plain of the lower MAV was bottomland hardwood forested wetlands. Historically, bottomland hardwoods extended hundreds of miles across this ecosystem. These expansive areas of bottomland hardwoods were subject to frequent periods of inundation. However, due to flood protection provided by Mississippi River main-levee and drainage projects about 80% of this area in the lower MAV was cleared and converted primarily to agricultural fields.

Habitats managed by Dahomey consist of 8,348 acres of bottomland hardwoods, 537 acres of fallow fields, 275 acres of moist soil and 531 acres of agricultural fields. Dahomey's 8,348 acres of woodlands is the largest contiguous tract of bottomland hardwood habitat occurring outside the Mississippi River levee in northwest Mississippi. Dahomey's forest lands are thus extremely valuable to many forms of wildlife. The Lower Mississippi River Valley Joint Venture Team has identified Dahomey as being one of the top five priority sites for wintering waterfowl in the state of Mississippi.

During a 40-year period prior to Service ownership, Dahomey's 8,348 acre hardwood forest was subject to fairly intensive timber harvesting. However, it was never clear cut. Instead, it was allowed to naturally regenerate. Dahomey's forest land is a relic of a habitat type that was once dominant throughout the lower MAV. Stream channelization and levee construction activities that have occurred within the vicinity of Dahomey have reduced historical flooding regimes to the point that a significant portion of the habitat within Dahomey is no longer subject to periods of seasonal inundation. Therefore, one of the NMRC's objectives for Dahomey NWR is to restore and manage seasonal hydroperiods within its wetland habitat.

During 1994, the NMRC installed levees, pipes, and water control structures in two streams occurring within Dahomey NWR, which created a 700-acre green tree reservoir. During 1999, the

NMRC converted an 85-acre agricultural field into a moist soil impoundment.

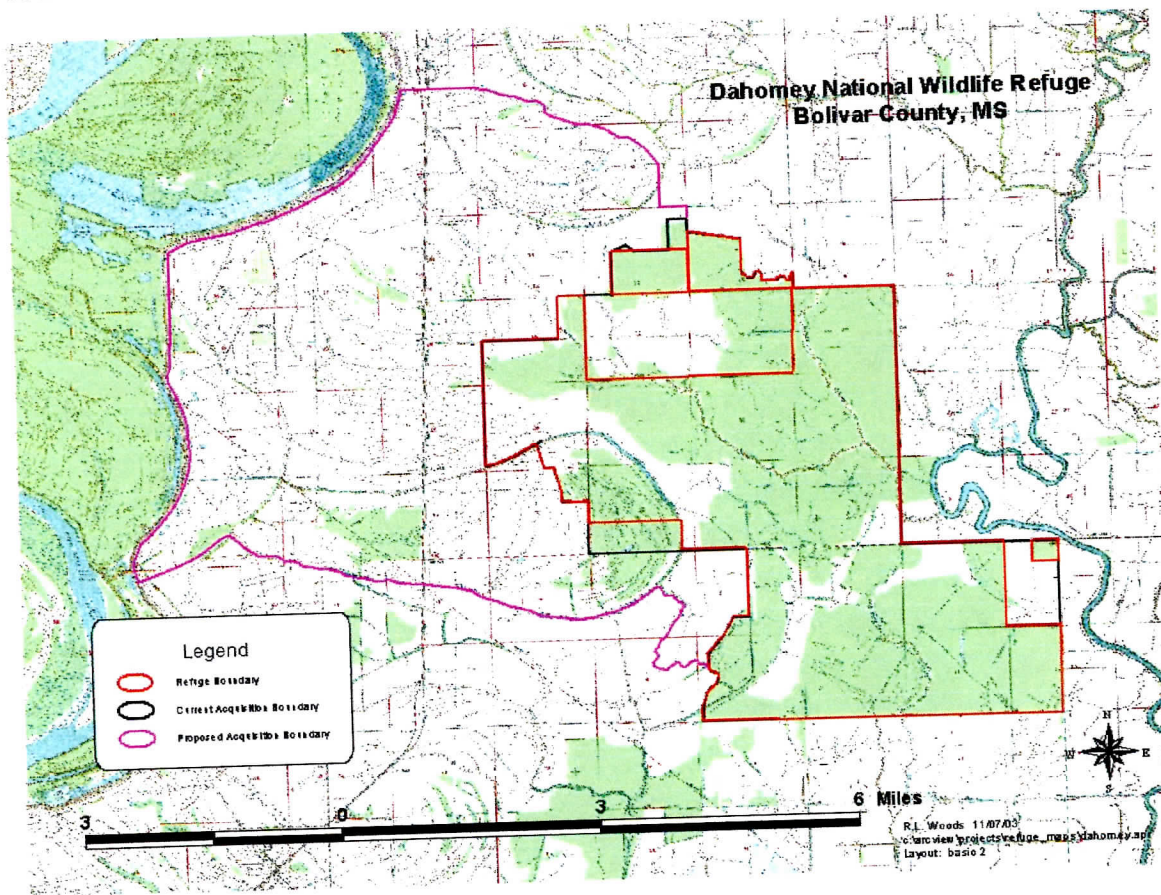


Figure 3. Dahomey National Wildlife Refuge

In 2001, a joint project with DU was completed with the construction of levees and the installation of water control structures resulting in complete water management of two units totaling 223 acres. We anticipate that on an annual basis, agricultural crops will be grown on one of the units and the other unit will be devoted to a moist soil area. The fields then will be rotated during the next growing season. Also, the rice fields that are farmed by cooperative farmers are flooded during winter months and provide quality habitat for thousands of migrating and wintering waterfowl (primarily mallards, gadwalls, American widgeon, and wood ducks).

The NMRC intends to further its management efforts for waterfowl and other waterbirds by restoring and managing seasonal hydroperiods within more of Dahomey's habitats. For example, the NMRC is planning to develop greentree reservoirs, manage water levels in shrub swamps and construct moist-soil impoundments within more agricultural fields. The forest habitat management plan that was completed in 2001 provides the necessary mechanism to manage forest habitat in a manner that will benefit forest interior landbirds.

Table 2. Properties managed Dahomey National Wildlife Refuge

REFUGE PROPERTIES								
NAME	COUNTY	ACRES	ESTATE	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	YEAR ACQUIRED	LAT/LON
Dahomey NWR								
Allen Gray Estate/TNC	BOLIVAR	9,269	Fee Title	CHOCTAW, PACE	BEULAH, LOBDELL	T22N R7W SEC. 17, 19, 22 & 27-34; T21N R7W SEC. 1-4 & 9-12	1993.00	33°42'N 90°55'W
MS Dept of Trans. (DOT)	BOLIVAR	162	Fee Title	CHOCTAW	LOBDELL	T22N R7W SEC. 34	1991.00	33°42'N 90°54'W
West Bolivar Co. School Board	BOLIVAR	260	Lease	CHOCTAW, PACE	BEULAH, LOBDELL	T22N R7W SEC. 16	N/A	33°45'N 90°09'W
DAHOMAY NWR		TOTAL ACRES	9,691					

FmHA FEE TITLE PROPERTIES								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
CARMICL	BOLIVAR	40	14.00	PACE	SHELBY	T24N R6W SEC. 26	07/26/91	33°54'N 90°47'W
GOSS	BOLIVAR	543	17.00	MELLWOOD	ROUND LAKE	T26N R6W SEC. 35 & 36; T25N R6W SEC. 2	07/14/94	34°05'N 90°47'W
HESTER, T. III	BOLIVAR	389	13.00	PACE	PACE	T23N R6W SEC. 1	07/26/91	33°52'N 90°46'W
HOLCOMB, D.	BOLIVAR	40	12.00	CLARKSDALE	DUNCAN	T25N R5W SEC. 13	07/26/91	34°02'N 90°40'W
RAY	BOLIVAR	50	18.00	PACE	SHELBY	T25N R6W SEC. 33	09/27/94	33°59'N 90°49'W
RILEY	BOLIVAR	100	11.00	MOUND BAYOU	MERIGOLD	T23N R5W SEC. 13	07/26/91	33°50'N 90°40'W
WATTS, J.	BOLIVAR	214	16.00	MELLWOOD	ROUND LAKE	T25N R6W SEC. 4	07/31/92	34°04'N 90°50'W
WATTS, J.	BOLIVAR	81	16.00	MELLWOOD	ROUND LAKE	T26N R6W SEC. 33	07/31/92	34°04'N 90°49'W
BOWLING	SUNFLOWER	170	14.00	BAIRD	MOOREHEAD	T19N R3W SEC. 29	12/06/91	33°29'N 90°31'W
LINDSEY, L.	SUNFLOWER	160	13.00	CLEVELAND	BOYER	T20N R4W SEC. 17	07/26/91	33°34'N 90°38'W
LINDSEY, L.	SUNFLOWER	40	13.00	CLEVELAND	RULEVILLE	T21N R4W SEC. 14	07/26/91	33°40'N 90°35'W
LINDSEY, L.	SUNFLOWER	204	13.00	CLEVELAND	RULEVILLE	T22N R4W SEC. 3	07/26/91	33°42'N 90°35'W
POVALL / KITCHENS	SUNFLOWER	180	11.00	BAIRD	MOOREHEAD	T19N R4W SEC. 25	11/06/90	33°27'N 90°33'W
POVALL / KITCHENS	SUNFLOWER	422	11.00	BAIRD	INVERNESS	T17N R4W SEC. 24 & 25	11/06/90	33°18'N 90°33'W
POVALL / KITCHENS	SUNFLOWER	80	11.00	BAIRD	INVERNESS	T17N R4W SEC. 13 & 18	11/06/90	33°19'N 90°33'W
WALKER	SUNFLOWER	42	10.00	CLEVELAND	CLEVELAND	T21N R4W SEC. 29	10/02/90	33°38'N 90°38'W
PATTERSON / WHITTEN	SUNFLOWER	46	15.00	SUMNER	ROME	T24N R3W SEC. 15 & 22	09/01/94	33°56'N 90°29'W
WILKINS	SUNFLOWER	1,204	12.00	SUMNER	ROME	T24N R3W SEC. 35 & 36; T23N R3W SEC. 1	05/02/91	33°54'N 90°22'W
18 FEE TITLE PROPERTIES IN 2 COUNTIES		4,005	ACRES					

FmHA CONSERVATION EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
BALDUCCI	BOLIVAR	12	19C	MOUND BAYOU	MOUND BAYOU	T24N R5W SEC. 6	10/13/95	33°58'N 90°45'W
BALDUCCI	BOLIVAR	12	19C	PACE	SHELBY	T24N R6W SEC. 1	10/13/95	33°58'N 90°46'W
BASS, B.H.	BOLIVAR	69	15C	PACE	SHELBY	T25N R6W SEC. 33	04/21/92	33°59'N 90°49'W
BASS, B.H.	BOLIVAR	277	15C	MELLWOOD	LACONIA, ROUND LAKE & SHELBY	T25N R7W SEC. 25 & 36	04/21/92	34°00'N 90°52'W
BASS, B.H.	BOLIVAR	723	15C	MELLWOOD	LACONIA & ROUND LAKE	T25N R7W SEC. 23 & 24	04/21/92	34°01'N 90°52'W
CLIFTON, R.	BOLIVAR	97	10C	CHOCTAW	LOBDELL	T21N R7W SEC. 28	12/18/89	33°08'N 90°55'W
HESTER, T. JR.	BOLIVAR	55		PACE	SHELBY	T25N R6W SEC. 34		33°59'N 90°48'W
HESTER, T. JR.	BOLIVAR	35		PACE	SHELBY	T25N R6W SEC. 34		33°59'N 90°48'W
McCLURE, J.	BOLIVAR	40		CLEVELAND	CLEVELAND	T21N R4W SEC. 26		33°47'N 90°43'W
McCLURE, J.	BOLIVAR	40		CLEVELAND	CLEVELAND	T21N R5W SEC. 33		33°38'N 90°41'W
ALLEN	COAHOMA	4	11C	MARKS	LULA	T30N R3W SEC. 34		34°25'N 90°29'W
ALLEN	COAHOMA	52	11C	MARKS	LULA	T29N R3W SEC. 10 & 15		34°22'N 90°29'W
ALLEN	COAHOMA	31	11C	MARKS	LULA	T29N R3W SEC. 10 & 11		34°23'N 90°29'W
ALLEN	COAHOMA	30	11C	MARKS, FARRELL	LULA	T29N R3W SEC. 15		34°22'N 90°30'W
SAFLEY / BRADY	COAHOMA	13	10C	MOUND BAYOU	BALTZER	T25N R3W SEC. 32	02/26/90	33°59'N 90°31'W
MOSES	SUNFLOWER	25		MOUND BAYOU	MOUND BAYOU	T22N R4W SEC. 1	08/30/64	33°48'N 90°36'W
POWELL	SUNFLOWER	40	16C	CLEVELAND	RULEVILLE	T21N R4W SEC. 11		33°40'N 90°34'W
7 CONSERV. EASEMENTS IN 3 COUNTIES		1,554	ACRES					

FmHA FLOODPLAIN EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
HESTER, T. JR.	BOLIVAR	4		PACE	SHELBY	T24N R6W SEC. 3		33°59'N 90°48'W
POWELL	SUNFLOWER	1		CLEVELAND	RULEVILLE	T21N R4W SEC. 14		
POWELL	SUNFLOWER	7		CLEVELAND	RULEVILLE	T21N R4W SEC. 14		33°40'N 90°34'W
POWELL	SUNFLOWER	21		CLEVELAND	BOYER & SUNFLOWER	T20N R4W SEC. 32		33°31'N 90°37'W
POWELL	SUNFLOWER	24		CLEVELAND	BOYER	T19N R4W SEC. 5		33°31'N 90°37'W
4 FLOODPLAIN EASEMENTS IN 2 COUNTIES		57	ACRES					

01/03/01

Dahomey's 8,348 acre bottomland hardwood forest provides important habitat for numerous species of neotropical migratory birds such as Mississippi kite, summer tanager, ruby-throated hummingbird, wood thrush, hermit thrush, yellow-billed cuckoo, blue-gray gnatcatcher, great crested flycatcher, eastern wood-pewee, Acadian flycatcher, hooded warbler, prothonotary warbler, Swainson's warbler, white-eyed vireo, and red-eyed vireo. Dahomey NWR has been identified by Partners in Flight as a priority area in the lower MAV for rare or declining migratory landbirds. As such, Dahomey is a landmark for birdwatchers.

Dahomey NWR has had a hunting program since 1993. Numerous sportsmen participate in deer, turkey, squirrel and rabbit hunts that the NMRC has made available at Dahomey. Several trophy quality white-tailed deer have been harvested at Dahomey, resulting in a reputation for having quality deer and has become a favorite hunting place for many deer hunters. In 1998, for the first time, the NMRC established a waterfowl hunting season at Dahomey. During the waterfowl season, hunters can hunt on Wednesdays, Saturdays and Sundays until noon.

Flocks of twenty or more wild turkeys are seen regularly during the fall and winter on Dahomey NWR. In the winter, six species of woodpeckers can be seen along with barred, great horned, screech, and short-eared owls. Dahomey NWR is truly an island of forested wetlands in a sea of agricultural lands and represents a vestige of natural habitats in the northwestern part of Mississippi.



Photo 1. Mallards using a moist soil unit at Dahomey NWR

Alejandro Galvan/USFWS

Tallahatchie National Wildlife Refuge

Until 2000, the **Tallahatchie NWR** consisted of the Bear Lake and Black Bayou Units. At that time, these two units were officially separated into individual refuges. The Bear Lake Unit retained the name of Tallahatchie NWR and the Black Bayou Unit was renamed (the) Coldwater River NWR.

The Tallahatchie NWR is a 4,083-acre patchwork of cultivated farmlands, old fields and small scattered tracts of bottomland hardwood forest bisected by the meandering Tippo Bayou (Figure 4). The refuge work area consists of 3,227 acres of fee title properties, 2,649 acres of conservation easements and 1,832 acres of floodplain easements (Figure 4 and Table 3). The old oxbows and low-lying fields along Tippo Bayou flood each winter and hold large concentrations of waterfowl. The unit also supports a healthy deer herd. Wood ducks, common screech owls, barred owls, great-horned owls, loggerhead shrikes, and red tailed hawks are common year-round residents. Blue grosbeaks, dickcissels, and painted buntings can be seen during summer. Most of the agricultural land, 628 acres, is devoted to soybeans, corn, and rice.

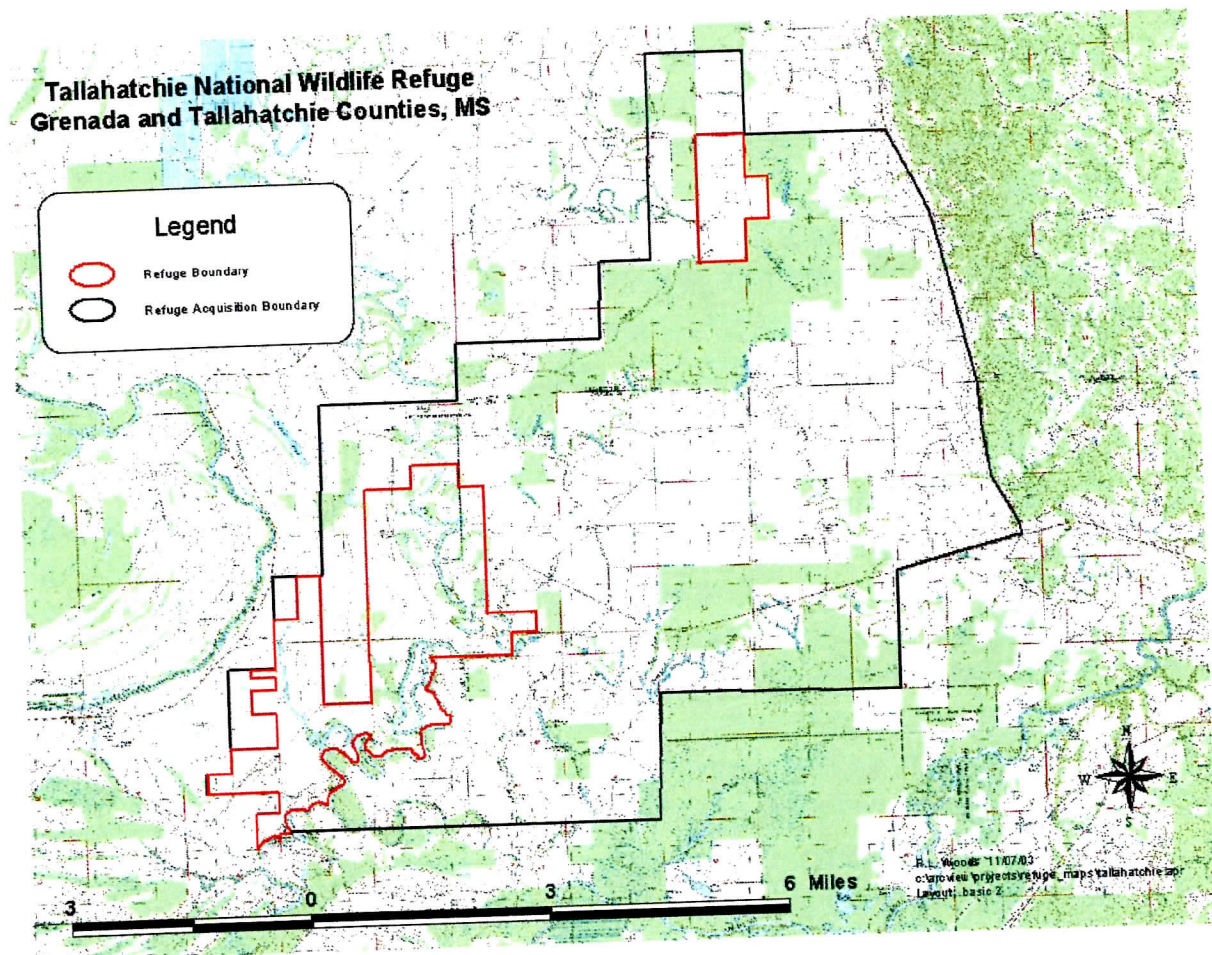


Figure 4. Tallahatchie National Wildlife Refuge

REFUGUE PROPERTIES								
NAME	COUNTY	ACRES	ESTATE	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	YEAR ACQUIRED	LAT/LON
TALLAHATCHIE NWR								
Walker Tract	TALLAHATCHIE	557	Fee Title	PHILIPP	CASCILLA	T23N R2E SEC. 21, 22 & 28	1991	30°50'N 90°05'W
John Whitten	TALLAHATCHIE	509	Fee Title	PHILIPP	PHILIPP	T22N R1E SEC.13 & 24; T22N R2E SEC. 18	1992	33°45'N 90°08'W
John Hancock	TALLAHATCHIE	1,361	Fee Title	PHILIPP	PHILIPP	T22N R1E SEC. 1, 12 & 13; T22N R2E SEC. 7 & 18	1992	33°47'N 90°08'W
Chicago Mills/DOT	TALLAHATCHIE	1,656	Fee Title	GREENWOOD, PHILIPP	MONEY, PHILIPP	T22N R1E SEC. 14, 22-27 & 34	1997	33°45'N 90°09'W
Sayle	TALLAHATCHIE	116	Fee Title	PHILIPP	PHILIPP	T22N R1E SEC. 24	2003	33°45'N 90°08'W
TALLAHATCHIE NWR	TOTAL ACRES (Fee Title only)	4,199						

FmHA FEE TITLE PROPERTIES								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
GILLON	GRENADA	245	11.00	GRENADA	GRENADA	T22N R5E SEC. 21	07/14/93	33°45'N 89°46'W
GWIN	LEFLORE	343	16.00	SUMNER	GLENDORA	T22N R2W SEC. 13 & 24	02/19/92	33°45'N 90°21'W
HENSON	LEFLORE	165	19.00	MOSSY LAKE	MONTGOMERY	T17N R1W SEC. 19	07/15/92	33°19'N 90°20'W
HENSON / A.C.O.E.	LEFLORE	275	no	MOSSY LAKE	MONTGOMERY	T17N R1W SEC. 19	?	33°19'N 90°20'W
KIMBROUGH, A.M.	LEFLORE	40	18.00	MOSSY LAKE	MONTGOMERY	T17N R1W SEC. 18	04/18/92	33°19'N 90°20'W
MILLICAN, H.	LEFLORE	2	17.00	SEVEN PINE	SIDON	T18N R1E SEC. 30	03/05/92	33°23'N 90°14'W
MILLICAN, H.	LEFLORE	76	17.00	SEVEN PINE	SIDON	T18N R1E SEC. 31	03/05/92	33°23'N 90°14'W
ROBERTSON	LEFLORE	655	14.00	GREENWOOD	GREENWOOD	T20N R1E SEC. 24 & 25	10/02/90	33°34'N 90°08'W
SCOTT	LEFLORE	226	20.00	SUMNER	BROOKS	T22N R2W SEC. 8	09/01/94	33°47'N 90°25'W
SCOTT	LEFLORE	80	20.00	SUMNER	BROOKS	T22N R2W SEC. 3	09/01/94	33°48'N 90°23'W
SCOTT	LEFLORE	90	20.00	SUMNER	BROOKS	T22N R2W SEC. 9	09/01/94	33°47'N 90°24'W
JAMES	TALLAHATCHIE	160	10.00	PHILLIP	TIPPO	T24N R1E SEC. 36	10/11/90	33°54'N 90°08'W
PENNINGTON	TALLAHATCHIE	470	17.00	SUMNER	WEBB & VANCE	T25N R2W SEC.36		33°59'N 90°21'W
PENNINGTON	TALLAHATCHIE	360	17.00	TUTWILER	TUTWILER & VANCE	T25N R2W SEC. 26		34°00'N 90°22'W
PENNINGTON	TALLAHATCHIE	40	17.00	TUTWILER	VANCE	T25N R1W SEC. 2		34°03'N 90°15'W
15 FEE TITLE PROPERTIES IN 3 COUNTIES		3,227	ACRES					

FmHA CONSERVATION EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
CALHOUN / DANCE	CARROLL	149	10C	COILA	PEACHAHALA CREEK	T17N R5E SEC. 31 & 32		33°17'N 89°47'W
CALHOUN / DANCE	CARROLL	57	10C	COILA	PEACHAHALA CREEK	T16N R5E SEC. 6		33°16'N 89°49'W
CALHOUN / DANCE	CARROLL	16	10C	COILA	PEACHAHALA CREEK	T17N R5E SEC. 31		33°17'N 89°48'W
STATEN	GRENADA	74	12C	PHILIPP	CASCILLA	T22N R2E SEC. 17 & 20		33°45'N 90°06'W
HARRIS, W.L.	GRENADA	18	10C	PHILIPP	CASCILLA	T22N R2E SEC. 10		33°46'N 90°04'W
MOOR, R.B.	LEFLORE	11	15C	GREENWOOD	GREENWOOD	T19N R1W SEC. 12	11/29/90	33°31'N 90°14'W
MOOR, R.B.	LEFLORE	77	15C	GREENWOOD & SCHLATER	GREENWOOD & SHELLMOUND	T19N R1W SEC. 12	11/29/90	33°31' N 90°15'W
MOOR, R.B.	LEFLORE	17	15C	SCHLATER	SHELLMOUND	T19N R1W SEC. 12	11/29/90	33°31'N 90°15'W
MOOR, R.B.	LEFLORE	58	15C	SCHLATER	GREENWOOD & SHELLMOUND	T19N R1W SEC. 13	11/29/90	33°30'N 90°15'W
TRIBBLE	LEFLORE	12		GREENWOOD	MONEY	T21N R1E SEC. 20		33°40'N 90°12'W
TRIBBLE	LEFLORE	28		GREENWOOD	MONEY	T21N R1E SEC. 20		33°40'N 90°13'W
HAWKINS	LEFLORE	33	12C	SCHLATER	BEAR CUT BAYOU	T20N R2W SEC. 34	09/20/90	33°33'N 90°23'W
KOLLE, R	LEFLORE	109	10C	SCHLATER	SHELL MOUND	T20N R2W SEC. 23	05/04/90	33°35'N 90°22'W
UPCHURCH / PRESTRIDGE	LEFLORE	250	11C	SCHLATER	BEAR CUT BAYOU	T20N R2W SEC. 22, 26 & 27	10/01/90	33°34'N 90°23'W
SAUNDERS	LEFLORE	15	13C	MOSSY LAKE & SCHLATER	COLONY TOWN	T19N R2W SEC. 20	07/09/90	33°30'N 90°25'W
SAUNDERS	LEFLORE	45	13C	MOSSY LAKE & SCHLATER	COLONY TOWN	T19N R2W SEC. 20	07/09/90	33°30'N 90°25'W
DAVIS, HIRAM	TALLAHATCHIE	17	13C	PHILIPP	MONEY	T22N R1E SEC. 29	02/15/90	33°44'N 90°12'W
DENMAN	TALLAHATCHIE	8	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°59'N 90°12'W
DENMAN	TALLAHATCHIE	6	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°58'N 90°12'W
DENMAN	TALLAHATCHIE	6	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°58'N 90°12'W
HARRIS, W.L.	TALLA, GRENA	389	10C	PHILIPP	CASCILLA	T23N R2E SEC. 35 & 36; T22N R2E SEC. 1	04/28/89	33°48'N 90°03'W
HARRIS, W.L.	TALLAHATCHIE	40	10C	PHILIPP	CASCILLA	T23N R2E SEC. 34	04/28/89	33°48'N 90°04'W
MABUS	TALLAHATCHIE	42	16C	CROWDER	FISH HOOK LAKE	T25N R1E SEC. 26 & 27		34°00'N 90°10'W
MABUS	TALLAHATCHIE	416	16C	PHILLIP	PHILIPP & TIPPO	T24N R1E SEC. 36; T23N R1E SEC. 1 & 12		33°53'N 90°08'W
MABUS	TALLAHATCHIE	7	16C	PHILIPP	PHILIPP	T23N R1E SEC. 21		33°50'N 90°12'W
MACKEY / GASTON, J.	TALLAHATCHIE	81	11C	CROWDER & TUTWILER	CROWDER	T25N R1W SEC. 12	11/02/90	34°02'N 90°14'W
MILAM	TALLAHATCHIE	3		PHILIPP	TIPPO	T24N R1E SEC. 11	10/22/98	33°57'N 90°09'W
MILAM	TALLAHATCHIE	40		PHILIPP	TIPPO	T24N R1E SEC. 12	10/22/98	33°57'N 90°09'W
SHOOK	TALLAHATCHIE	35	15C	PHILIPP	PAYNES	T24N R2E SEC. 17	07/14/95	33°57'N 90°06'W
HARRIS, W.L.	WEBS., CHOC.	515	10C	not available	EUPORA & SAPA	T19N R10E SEC. 9, 10 & 15	04/28/89	33°31'N 89°14'W
HOLLAND / BOONE	YALOBUSHA	37		GRENADA	SCOBIE	T25N R4E SEC.36		33°59'N 89°49'W
32 CONSERV. EASEMENTS IN 8 COUNTIES		2,611	ACRES					

FmHA FLOODPLAIN EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
STATEN	GRENADA	190	12C	PHILIPP	CASCILLA	T22N R2E SEC. 17 & 20	07/14/95	33°45'N 90°06'W
KOLLEE, R	LEFLORE	191	10C	SCHLATER	SHELL MOUND	T20N R2W SEC. 23	05/04/90	33°53'N 90°22'W
DAVIS, HIRAM	TALLAHATCHIE	240	13C	PHILIPP	MONEY	T22N R1E SEC. 29		33°44'N 90°13'W
DENMAN	TALLAHATCHIE	77	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°58'N 90°12'W
MABUS	TALLAHATCHIE	429	16C	CROWDER	FISH HOOK LAKE	T25N R1E SEC. 25 & 26		34°00'N 90°09'W
MABUS	TALLAHATCHIE	168	16C	PHILIPP	PHILIPP	T23N R1E SEC. 20 & 21		33°50'N 90°12'W
MACKEY / GASTON, J.	TALLAHATCHIE	217	11C	CROWDER & TUTWILER	CROWDER & VANCE	T25N R1W SEC. 12	11/02/90	34°03'N 90°15'W
MILAM	TALLAHATCHIE	160		PHILIPP	TIPPO	T24N R1E SEC. 11 & 12	10/22/98	33°57'N 90°09'W
SHOOK	TALLAHATCHIE	160	15C	PHILIPP	PAYNES	T24N R2E SEC. 17	07/14/95	33°56'N 90°06'W
10 FLOODPLAIN EASEMENTS IN 4 COUNTIES		1,832	ACRES					

Just south of the refuge lies the 9,483 acre Malmaison Wildlife Management Area which is managed by the Mississippi Department of Wildlife Fisheries and Parks (MDWFP).

When these refuge lands were originally acquired by the Service, agriculture production was the primary land use. In 2004, 15% of the refuge was in agriculture production. Twenty-five percent of the crops produced were left on the ground for wildlife through the Services cooperative farming program. Most of the refuge has been reforested through planting efforts by NMRC staff.

Tallahatchie NWR has a popular hunting program. Hunters pursue white-tailed deer, squirrel, rabbits, ducks, and feral hogs. Youth hunts for both deer and waterfowl are heavily promoted on the refuge. The boat landing on Tippo Bayou provides access to hunters and fisherman alike.

Currently the Refuge is staffed by NMRC.



Photo 2. Snowgeese in a soybean field on Tallahatchie NWR
Becky Rosamond/USFWS

COLDWATER RIVER NATIONAL WILDLIFE REFUGE

Coldwater River NWR, consists of 2,374 acres of fee title lands (Figure 5). Over half of the refuge is abandoned old fields of low, poorly drained soils which flood most winters. There are 3,452 acres of fee title FmHA properties, 165 acres of conservation easements and 271 acres of floodplain easements in the Coldwater River NWR work area (Figure 1 and Table 4). Several hundred acres have been reforested with hardwoods, but due to the wet nature of the area, willow and buttonbush thickets now dominate many acres. This area holds thousands of mallards during annual winter flooding. No cooperative farming was used on Coldwater River NWR during 2004.

A 495-acre portion of Coldwater River NWR contains twenty-five ponds that were previously managed as a commercial catfish operation. These ponds range in size from 18 to 21 acres, and are now managed for shorebirds, ducks and marsh birds. Thirty-four species of shorebirds have been recorded here. Fifteen of these are commonly seen at the ponds from March - June and July - October. Peregrine falcon, least tern,



Photo 3. White Fronted Geese using Coldwater River NWR
Becky Rosamond/USFWS

black tern, and wood stork occasionally pass through the refuge in migration. Bald eagles are seen regularly in winter and occasionally a golden eagle is seen. Marsh birds such as sedge wren, marsh wren, common yellowthroat, swamp sparrow, sora, and king rail are regularly seen or heard at Coldwater River NWR. American bittern, least bittern, Lincoln's sparrow, LeConte's sparrow, and Virginia rail are seen less commonly. Mississippi kites, dickcissels, warbling vireos, and painted buntings can be seen on the refuge during the summer. Also, during the summer, it is not uncommon to see a couple hundred egrets, ibis, and herons feeding in the ponds. Beaver, bobcat, coyote and mink also occur on the refuge.

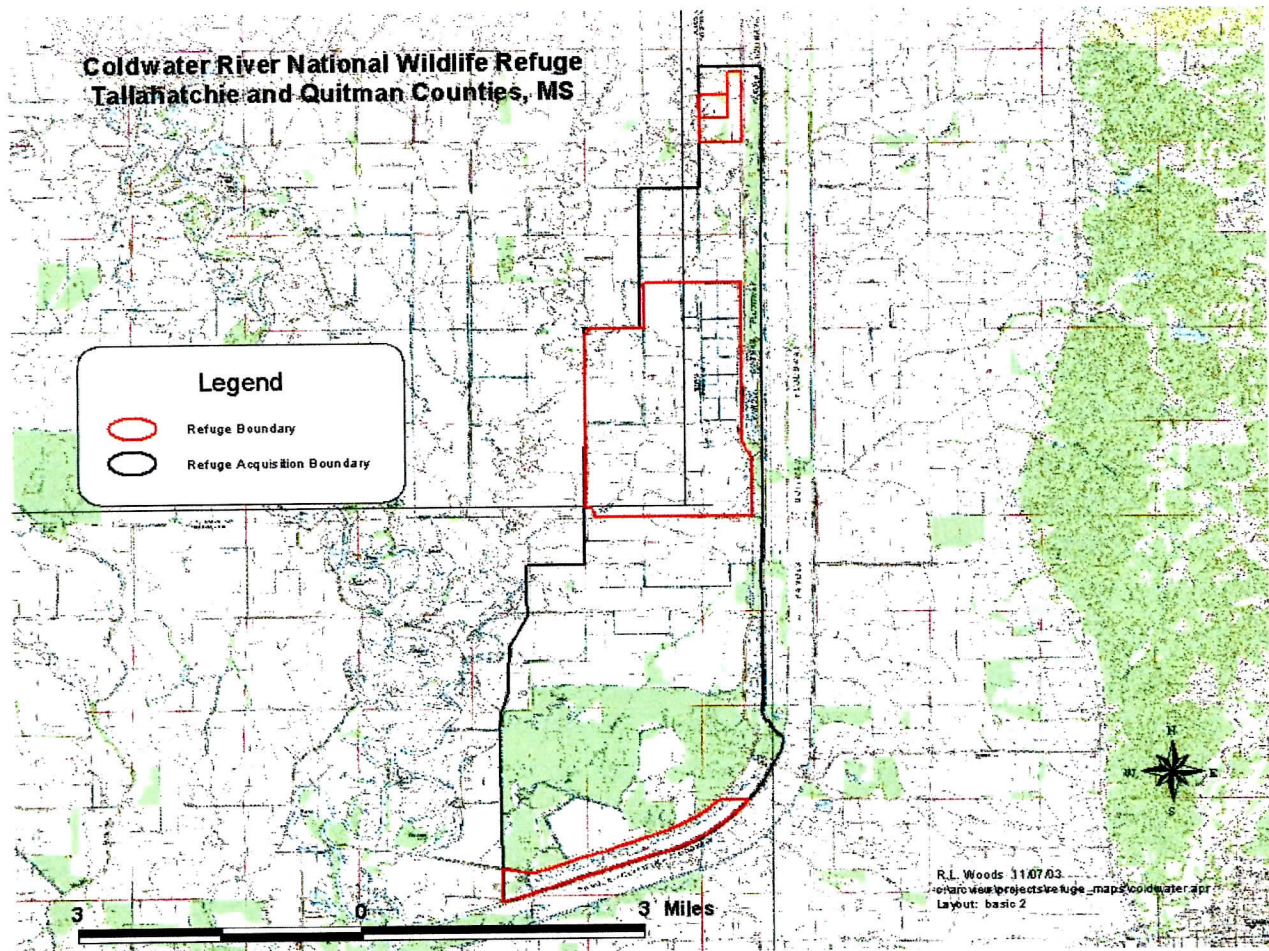


Figure 5. Coldwater River National Wildlife Refuge.

Other waders such as snowy egrets, little blue herons, black-crowned night herons, yellow-crowned night-heron, white ibis, and flocks of wading birds, after having spent the day foraging at scattered locations in the vicinity, can be seen flying in to roost in the ponds, which are filled with willow. Least flycatchers nested here during the summers of 1996 and 1997. This is the only location where this species has been known to nest in Mississippi. The twenty-five ponds and nearby low-lying fallow fields of the refuge have a history of attracting large concentrations of waterfowl in the winter. The refuge provides a juxtaposition of habitats not commonly found in the lower MAV. Coldwater River's mix of habitats and proximity to the migration corridors of the Little Tallahatchie River and the Panola-Quitman Floodway attract a diversity of migrant waterbirds all year round.

Robert Barkley is the Refuge Manager for Coldwater River NWR.

Table 4. Properties managed by Coldwater River National Wildlife Refuge

REFUGE PROPERTIES								
NAME	COUNTY	ACRES	ESTATE	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	YEAR ACQUIRED	LAT/LON
COLDWATER RIVER NWR								
Travelers Insurance	QUITMAN, TALLAHATCHIE	1,730	Fee Title	CROWDER	FISH HOOK LAKE	T26N R2E SEC. 30 & 31; T26N R1E SEC. 25 & 36	1991.00	34°5'N 90°08'W
Shiele Tract	TALLAHATCHIE	40	Fee Title	CROWDER	CROWDER	T26N R2E SEC. 7	1996.00	34°8'N 90°08'W
Warwick Tract	TALLAHATCHIE	306	Fee Title	CROWDER	FISH HOOK LAKE	T25N R1E SEC. 23 & 24 T25 R2E SEC. 18 & 19	2001.00	
Duck Ponds Inc.	QUITMAN, TALLAHATCHIE	298	Fee Title	CROWDER	FISH HOOK LAKE	T26N R2E SEC. 19; T26N R1E SEC. 24	1996.00	34°6'N 90°08'W
COLDWATER RIVER NWR	TOTAL ACRES	2,374						

FmHA FEE TITLE PROPERTIES								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
SMITH, E.	MARSHALL	232	10.00	POTTS CAMP	MALONE	T6S R2W SEC. 28 & 29		34°37'N 89°25'W
WHALEY	MARSHALL	437	11.00	POTTS CAMP	BETHLEHEM	T6S R1W SEC. 6 & 7; T6S R2W SEC. 1		34°35'N 89°21'W
CASTLEBERRY	TALLAHATCHIE	94	12.00	CROWDER	CROWDER	T26N R2E SEC. 7	11/01/93	34°07'N 90°07'W
BUTLER	QUITMAN	245		TUTWILER	LAMBERT	T27N R1W SEC. 11, 12 & 14	04/01/99	34°13'N 90°15'W
SAVAGE, E.	QUITMAN	59	10.00	TUTWILER	LAMBERT	T27N R1W SEC. 11	11/06/90	34°13'N 90°16'W
SAVAGE, P.	QUITMAN	40	13.00	CROWDER	CROWDER	T26N R1E SEC. 1	09/01/93	34°08'N 90°08'W
SAVAGE, P.	QUITMAN	20	13.00	CROWDER	CROWDER	T26N R1E SEC. 12	09/01/93	34°07'N 90°08'W
STARR, R.	QUITMAN	750	12.00	SLEDGE	CRENSHAW SOUTH	T8S R10W SEC. 1 & 2	06/02/91	34°25'N 90°13'W
STARR, R.	QUITMAN	320	12.00	SLEDGE	CRENSHAW SOUTH	T7S R10W SEC. 23	06/02/91	34°27'N 90°13'W
TRAINOR / BOYD	QUITMAN	382	11.00	TUTWILER	LAMBERT	T26N R1W SEC. 2 & 11	11/06/90	34°09'N 90°15'W
TRAINOR / BOYD	QUITMAN	219	11.00	CROWDER	CROWDER	T27N R1E SEC. 19& 20	11/06/90	34°12'N 90°14'W
TRAINOR / BOYD	QUITMAN	188	11.00	CROWDER	CROWDER	T27N R1E SEC. 20, 21 & 29	11/06/90	34°11'N 90°12'W
TRAINOR / BOYD	QUITMAN	228	11.00	TUTWILER	LAMBERT	T27N R1W SEC. 27	11/06/90	34°10'N 90°17'W
FOOSHEE / SMITH	UNION	104	10.00	NEW ALBANY	NEW ALBANY WEST	T7S R2E SEC. 32 & 33	07/22/94	34°26'N 89°06'W
FOOSHEE / SMITH	UNION	134	10.00	NEW ALBANY	ETTA, NEW ALBANY WEST	T7S R2E SEC. 31 & 32	07/22/94	34°26'N 89°07'W
15 FEE TITLE PROPERTIES IN 4 COUNTIES		3,452	ACRES					

FmHA CONSERVATION EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
BELL / CRAB	ALCORN	40	10C	WALNUT	CHALYBEATE	T2S R5E SEC. 29	11/25/91	34°53'N 88°47'W
TURNER / TALLEY	ALCORN	8	11C	CORINTH	KUSSUTH NORTH	T1S R6E SEC. 36	02/22/95	34°57'N 88°37'W
TRAINOR, E. L.	QUITMAN	6	16C	CROWDER	CROWDER	T27N R1W SEC. 12 & 13	01/01/98	34°13'N 90°14'W
BENSON	UNION	76		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°27'N 89°12'W
BENSON	UNION	1		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°27'N 89°12'W
BENSON	UNION	2		NEW ALBANY	ETTA	T7S R1E SEC. 20 & 21	07/01/99	34°27'N 89°12'W
BENSON	UNION	26		NEW ALBANY	ETTA	T7S R1E SEC. 17 & 20	07/01/99	34°28'N 89°13'W
BENSON	UNION	6		NEW ALBANY	ETTA	T7S R1E SEC. 17	07/01/99	34°28'N 89°12'W
BENSON	UNION	2		NEW ALBANY	ETTA	T7S R1E SEC. 17	07/01/99	34°28'N 89°12'W
9 CONSERV. EASEMENTS IN 3 COUNTIES		165	ACRES					

FmHA FLOODPLAIN EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
McCLATCHY	MARSHALL	124	12C	TYRO	MARIANNA	T4S R3W SEC. 22		34°43'N 89°30'W
TRAINOR, E. L.	QUITMAN	3		TUTWILER	LAMBERT	T27N R1W SEC. 13 & 14	01/01/98	34°12'N 90°15'W
TRAINOR, E. L.	QUITMAN	16		CROWDER & TUTWILER	CROWDER & LAMBERT	T27N R1W SEC. 13	01/01/98	34°12'N 90°15'W
BENSON	UNION	43		NEW ALBANY	ETTA	T7S R1E SEC. 17	07/01/99	34°28'N 89°12'W
BENSON	UNION	36		NEW ALBANY	ETTA	T7S R1E SEC. 20	07/01/99	34°27'N 89°13'W
BENSON	UNION	36		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°28'N 89°13'W
BENSON	UNION	13		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°27'N 89°12'W
7 FLOODPLAIN EASEMENTS IN 3 COUNTIES		271	ACRES					

01/03/02

HIGHLIGHTS

- EO Jones was awarded the Regional Director's Honor Award. He received his award at a ceremony in the Southeast Regional Office.
- PL Gard continued his work as Team Leader for the Wildlife, Habitat and Biodiversity Goals Team. The Team's recommendations were forwarded to the Refuge Chief's for consideration and a new team was formed in 2004 to implement the goals approved by the Refuge Chiefs.
- The first annual kids fishing rodeo was hosted by NMRC in partnership with the city of Grenada.
- The NMRC Comprehensive Conservation Plan draft is undergoing internal review in the Regional Office.
- Martin Holloway joined the NMRC staff in November. Martin transferred from the Border Patrol in Tuscon, AZ, and is the fulltime LE Officer for the complex.
- Private Lands Biologist Chuck Haynes was selected for the Stepping Up To Leadership Program.

Climatological Review – 2004

2004 climatological data summaries for northwest Mississippi were not available at the time of this writing.

Climatic Highlights

Table 5 depicts the climatological information collected at the weather station located in Greenwood, MS, located 23 miles southwest of the NMRC headquarters.

Table 5. 2004 weather information collected at the weather station in Jackson, MS.

Month	Avg High Temp (F)	Avg Low Temp (F)	Total Precip (in)
January	54	34	3.71
February	56	31	6.84
March	64	45	4.10
April	75	49	2.68
May	84	63	9.62
June	90	71	9.24
July	89	71	2.33
August	88	65	3.59
September	87	62	0.92
October	80	49	4.56
November	70	49	6.84
December	<u>55</u>	33	8.57



Monitoring and Studies

1a. Surveys and Censuses

The following are significant surveys and censuses that took place during 2004 on lands administered by the NMRC.

- Wildlife Biologist Becky Rosamond conducted aerial waterfowl surveys of North Mississippi Refuge lands this past year. Surveys were conducted twice a month from late October through the beginning of March and were conducted at low altitude (approximately 500 feet). Water conditions were only fair to good until February. As a result, duck use was lower than in previous years. Peak numbers (approximately 30,000 birds) occurred at the end of December through January, with the majority of the birds occurring on Coldwater River NWR and the Walker Tract of Tallahatchie NWR. Table 6 on page 2 summarizes the results of the survey
- WB Rosamond with help from interns Steven Little and Sarah Moore conducted calling frog surveys at Coldwater River, Tallahatchie and Dahomey NWR's. Surveys were conducted in early spring, late spring, and summer and detected a total of 11 species (9 species on Coldwater River, 8 species on Tallahatchie and 10 species on Dahomey NWR).
- WB Rosamond, Interns Little and Moore, and ARM Hayes conducted a survey of the heron rookery on the Gillon Tract in early June.
- WB Rosamond ground-truthed 5 frog survey routes throughout Mississippi as part of the North American Amphibian Monitoring Program (NAAMP). A total of 32 of the 62 established routes have been ground-truthed. Volunteers conducted surveys along 9 of these routes. These data are entered into the national database and are used to analyze population trends across the eastern half of North America.



Photo 4. Heron rookery on the Gillon Tract

Becky Rosamond/USFWS

Table 6. Waterfowl survey results for 2003 - 2004

Date	Site	Water Condition	Total Waterfowl	Mallard	Wood Duck	Northern Shoveler	Northern Pintail	Teal	Gadwall	American Wigeon	Ringneck Duck	American Coot	Double-crested Cormorant	Canada Goose	White-fronted goose	Snow Goose
10/30/2003	Harris	POOR	68	35	0	0	30	3	0	0	0	0	0	0	0	0
	Walker	FAIR	1600	360	0	0	40	800	0	0	0	400	0	0	0	0
	TAL	POOR	40	40	0	0	0	0	0	0	0	0	0	0	0	0
	CWR															
	Wilkins															
	DAH			SURVEY CANCELLED--TOO WINDY												
	Robertson															
	Totals		1708	435	0	0	70	803	0	0	0	400	0	0	0	0
11/11/2003	Harris	POOR	23	0	0	0	0	0	8	0	0	15	0	0	0	0
	Walker	POOR	1776	478	0	0	195	215	753	0	0	135	0	0	0	0
	TAL	POOR	264	159	20	0	0	0	85	0	0	0	0	0	0	0
	CWR	POOR	6265	2700	0	80	545	1550	800	0	0	90	0	0	500	0
	Wilkins	POOR	659	102	0	0	63	250	244	0	0	0	0	0	0	0
	DAH	FAIR	98	92	6	0	0	0	0	0	0	0	0	0	0	0
	Robertson	FAIR	71	71	0	0	0	0	0	0	0	0	0	0	0	0
	Totals		9156	3602	26	80	803	2015	1890	0	0	240	0	0	500	0
11/21/2003	Harris	FAIR	215	205	0	0	0	10	0	0	0	0	0	0	0	0
	Walker	FAIR	3900	2000	0	0	92	725	1060	23	0	0	0	0	0	0
	TAL	GOOD	185	110	5	0	50	0	20	0	0	0	0	0	0	0
	CWR	FAIR	6540	3765	0	0	405	1370	900	0	0	0	0	0	100	0
	Wilkins	FAIR	1210	710	0	0	28	240	232	0	0	0	0	0	0	0
	DAH	GOOD	100	100	0	0	0	0	0	0	0	0	0	0	0	0
	Robertson	FAIR	1045	325	0	0	50	150	500	0	0	0	0	20	0	0
	Totals		13195	7215	5	0	625	2495	2712	23	0	0	0	20	100	0
12/17/2003	Harris	GOOD	2300	1440	0	0	0	630	230	0	0	0	0	0	0	0
	Walker	FAIR	8260	3180	0	50	160	3480	1140	250	0	0	0	0	0	0
	TAL	FAIR	821	650	21	0	0	0	150	0	0	0	0	0	0	0
	CWR	POOR	14670	3945	0	350	1325	2230	3420	0	0	0	0	0	400	3000
	Wilkins	GOOD	2054	882	0	0	100	480	590	0	0	0	0	0	0	2
	DAH	FAIR	200	180	0	0	0	0	20	0	0	0	0	0	0	0
	Robertson	FAIR	1938	1448	2	0	0	193	290	0	0	6	0	0	0	0
	Totals		30243	11725	23	400	1585	7013	5840	250	0	6	0	0	400	3002
1/2/2004	Harris	FAIR	1500	1430	0	0	0	0	70	0	0	0	0	0	0	0
	Walker	FAIR	9269	520	0	50	0	7061	1560	78	0	0	0	0	0	0
	TAL	GOOD	3530	1995	7	0	633	0	356	540	0	0	0	0	0	0
	CWR	GOOD	9800	4095	0	202	0	3528	1395	0	580	0	0	0	0	0
	Wilkins	GOOD	3507	300	0	8	172	2550	478	0	0	0	0	0	0	0
	DAH	FAIR	20	20	0	0	0	0	0	0	0	0	0	0	0	0
	Robertson	GOOD	1880	1350	0	10	0	440	80	0	0	0	0	0	0	0
	Totals		29506	9709	7	270	806	13579	3938	618	580	0	0	0	0	0
1/23/2004	Harris	FAIR	3650	2100	0	0	0	1400	50	0	0	0	0	0	100	0
	Walker	FAIR	8710	2490	0	85	140	5618	210	156	0	0	0	0	10	0
	TAL	GOOD	2303	937	2	65	350	845	105	0	0	0	0	0	0	0
	CWR	FAIR	12116	2853	0	305	809	2027	946	190	723	0	0	0	765	3500
	Wilkins	FAIR	1481	1303	0	10	53	20	93	0	0	0	0	0	0	2
	DAH	POOR	451	161	20	13	23	43	106	0	85	0	0	0	0	0
	Robertson	GOOD	1121	726	0	0	189	0	206	0	0	0	0	0	0	0
	Totals		29831	10569	22	478	1564	9953	1716	346	808	0	0	0	875	3502
2/18/2004	Harris	POOR	58	22	0	30	6	0	0	0	0	0	0	0	0	0
	Walker	EXCELLENT	117	92	0	0	2	0	0	0	0	20	0	3	0	0
	TAL	EXCELLENT	407	21	10	92	67	150	56	0	0	0	0	2	10	0
	CWR	EXCELLENT	1273	213	0	9	133	35	175	4	641	0	62	0	0	0
	Wilkins	TAPE MALFUNCTION, NO DATA RECORDED														
	DAH	GOOD	256	85	4	10	0	0	27	0	130	0	0	0	0	0
	Robertson	GOOD	65	44	4	0	0	0	14	0	0	0	0	3	0	0
	Totals		2176	477	18	141	208	185	272	4	771	20	62	8	10	0
3/10/2004	Harris	FAIR	68	42	0	4	0	2	20	0	0	0	0	0	0	0
	Walker	EXCELLENT	83	60	0	4	0	0	16	0	0	0	0	3	0	0
	TAL	EXCELLENT	101	16	0	14	0	0	67	0	0	0	0	4	0	0
	CWR	EXCELLENT	576	44	0	292	0	0	19	10	132	0	79	0	0	0
	Wilkins	EXCELLENT	736	186	0	145	45	260	78	0	23	0	0	0	0	0
	DAH	GOOD	261	46	2	69	2	46	12	0	84	0	0	0	0	0
	Robertson	EXCELLENT	18	4	6	6	0	0	0	0	0	0	0	2	0	0
	Totals		1843	397	8	534	47	308	212	10	239	0	79	9	0	0

- WB Rosamond and Assistant Refuge Manager Kimberly Hayes conducted several bat searches in October in oxbows on Tallahatchie Refuge. Approximately 100 water tupelo trees with bottom openings were searched. No bats were found. The searches will be repeated in spring 2005.
- WB Rosamond began compiling fish and small mammal species lists for the refuges in the complex. A total of 16 species of fish and 14 species of mammals have been recorded to date. This work will be continued in 2005.



Photo 5. Adult mole salamanders (*Ambystoma talpoideum*) (left) and copperheads (*Agkistrodon contortrix*) (right) were captured and photo-documented on Dahomey NWR for the first time in 2004

Becky Rosamond/USFWS, Sarah Moore/USFWS

- WB Rosamond with interns and YCC participants conducted 3 malformed amphibian surveys on Dahomey in May and July. At each site, approximately 53 – 100 newly metamorphosed frogs were captured, measured and examined for any abnormality. Any individual displaying an abnormality was held in a separate container and later preserved. All “normal” individuals were released back at the capture site. The table below summarizes the survey results.

Table 7. Malformed Amphibian Survey Results

Date	Site	Species	Numbers	# Abnormal	% Abnormal	Avg. body Length (mm)	Avg. tail length (mm)
7/6/04	DHM 03	Fowler's toad	54	1	1.85	14.59	0
7/15/04	DHM 03	Gray treefrog species	53	3	5.66	16.15	0.25
5/12/04	DHM 06	Southern leopard frog	100	1	1.0	22.41	16.14

1b. Studies and Investigations

The North Mississippi Refuges formed partnerships with state agencies, universities, and other organizations to aid in conducting studies and investigations on refuge properties. The following are some significant activities that took place in 2004.

- Dr. Ed Keiser, a herpetologist from the University of Mississippi began a census of amphibians and reptiles on the Starr FmHA Tracts (750 and 320 acres) in Quitman County. On Starr 750, he recorded the occurrence of 1 salamander, 7 frog, 10 turtle, 3 lizard, and 10 snake species. On Starr 320, he recorded the occurrence of 2 salamander, 7 frog, 7 turtle, 2 lizard, and 9 snake species. Additionally, he recorded the presence of 24 mammal species on or near the 2 properties. Dr. Keiser began a herpetological census on the Whaley Tract in Marshall County this past spring and plans to complete it in spring of 2005. Voucher specimens collected during this study are interred at the Mississippi Museum of Natural Science.
- Jennifer Kross, a graduate student at Mississippi State collected habitat and seed production data from several of the moist soil units on Dahomey NWR. These data will be used in her Master's thesis. Additionally, she planned to use the rice fields on the southern portion of Dahomey to test the impacts of different post-harvest manipulations on waste rice availability. Unfortunately, weather prevented conducting prescribed burns as needed so these sites were excluded from her study.
- Dr. David Starkey, Louise Mead and Brad Shaffer from the University of California, Davis, requested specimens of various amphibian and reptile species for use in a study investigating patterns of colonization across the Great Plains. Intern Little collected 20 male northern cricketfrogs (*Acris crepitans*) which were euthanized, preserved and shipped to Dr. Starkey for his study.
- Dr. Scott Franklin and Margaret Cirtain (graduate student) continued work at Dahomey investigating the success of transplanting cane to reestablish canebrakes. This work is being done as part of a partnership with the University of Memphis, Strawberry Plains Audubon Center, and the North Mississippi Refuges Complex. WB Rosamond, RM Galvan, Interns Little and Moore, and Volunteer Juchheim girdled overstory trees in one plot as part of a study looking at the effects of being released from competition on established cane stands. Dr. Franklin



Photo 6. Intern Little and students from the University of Memphis transplant cane shoots at Dahomey NWR
Sarah Moore/USFWS

and students, with assistance from the Interns planted an additional 10 plots near the DU moist soil units as part of a propagation and competition study.

- Dr. Don Sudbrink, Delta State University, began an insect collection at Dahomey and Tallahatchie NWR's. Specimens are interred at Delta State University. An initial species list has been submitted to the Grenada Office.
- Dr. Jeff Duguay, Delta State University, began work with 2 students on a marbled salamander project at Dahomey, investigating characteristics of preferred breeding habitat of these salamanders.
- Dr. Nina Baghai-Riding, Delta State University, with 4 students (conservation ecology class), assisted with several projects on Dahomey NWR. They collected forest cruise data in several forestry compartments, conducted an invasive species survey and (with Dr. Jeff Duguay) conducted a deer browse survey.
- Jason Bried, graduate student at Mississippi State, collected dragonflies on Tallahatchie and Coldwater River NWR's. He is pursuing a Master's degree and working on a project relating dragonfly size and mass to wetland condition. At the completion of the study, he will also submit a dragonfly species list to NMRC for each Refuge.



Photo 7. Students from Delta State University's Conservation Biology class conducted forest measurements in several compartments at Dahomey NWR
Nina Baghai-Riding/Delta State University

2

Habitat Restoration



2a. Wetland restoration: On-refuge

The following wetland restoration projects were completed by NMRC staff during 2004:

- Restored the catfish ponds on the Henson FmHA Tract in Leflore County
- Created a 25 acre moist soil unit at Tallahatchie NWR
- Rehabilitated previous projects on the Harris, Robertson and both Pennington FmHA Tracts which cumulatively provide over 300 acres of wetland habitat

NMRC contracted with Ducks Unlimited to cut down and rework levees at Coldwater River NWR, as well as to install new water control structures. They completed work on the levees surrounding 14 of the 24 ponds in September.

2b. Upland Restoration: on-refuge

Nothing to report.

2c. Wetland Restoration: off-refuge

See Section 5c., Private Lands Activities.

2d. Upland Restoration: off-refuge

See Section 5c., Private Lands Activities.



Photo 8. Contractors at Coldwater River

NWR

NMRC contracted with Ducks Unlimited to cut down and rework levees at Coldwater River NWR, as well as to install new water control structures. They completed work on the levees surrounding 14 of the 24 ponds in September.
Becky Rosamond/USFWS



3

Habitat Management

3a. and b., Manage Water Levels and Moist Soil Units

In preparation for levee work on the catfish ponds at Coldwater River, EO Jones, interns Little and Moore and WB Rosamond began pulling boards and removing beaver debris throughout the refuge in March. A relatively dry spring allowed staff to dewater the majority of the ponds by mid-April. Several of the ponds responded with a heavy growth of wild millet and smartweed. WB Rosamond, with assistance from intern More in June and WHO Biologist Bob Strader (from the Habitat Office in Jackson) in August, measured moist soil seed production on units with the strongest responses. Calculated values ranged from 150 – 800 lbs./ac. of millet seed produced, with significant production of sprangletop (*Leptchloa* spp.), sedge (*Cyperus* spp.), toothcup (*Ammania coccinea*), and smartweed (*Polygonum* spp.) on various ponds. Several of the late drying ponds also had significant growth of coffeeweed (*Sesbania macrocarpa*), but there was generally a dense undergrowth of sprangletop associated with this growth. This was, by far, the best production in at least the last 4 years. Unfortunately, when levee renovation occurred in September, much of the excess dirt was deposited in the ponds, covering up the moist soil vegetation and

seeds. It remains to be seen if that seed will be available for migratory waterfowl this year.

The 10 southeastern ponds (ponds PP –X) at Coldwater River were not included in the above levee work. Instead, these ponds were manipulated for bird use during the summer and fall. Ponds S, T and V underwent natural drying and provided shorebird and wading bird habitat for much of the summer. Ponds Q and U dried up on their own by June and developed relatively good stands of moist soil vegetation with sedge dominating pond Q and millet present throughout pond U. Pond W was partially drawn down beginning in August in an attempt to provide



**Photo 9. STEP student Joelle Carney surrounded by a heavy growth of millet and smartweed in Unit E at Coldwater River NWR
Becky Rosamond/USFWS**

additional shorebird habitat. Between 9/15 and 10/8, ponds Q and U were filled in an attempt to provide habitat for early waterfowl arrivals.

Ponds 25 and 27 were planted in soybeans and millet. (Millet was planted in the low areas and left standing.) Units 26 and 28 were drained in early summer. Unfortunately, the vegetation that came up in these units was dominated by coffeeweed. Units 26 and 28 were mowed in September to remove standing coffeeweed. All units were reboarded in October to provide wintering waterfowl habitat.



Photo 10. Shorebirds using Unit 27 on Tallahatchie NWR during spring drawdown
Becky Rosamond/USFWS

Unit 58b on the north side of Tallahatchie was drained in late spring and reboarded in October. There was some natural regeneration of last year's millet crop, but the unit was dominated by undesirables, such as cocklebur (*Xanthium* sp.), water primrose (*Ludwigia* sp.), trumpet creeper (*Campsis radicans*), and redvine (*Brunnichia cirrhosa*).

In an effort control American lotus (*Nelumbo lutea*) in the western unit of the Walker Tract of Tallahatchie NWR, EO Jones drained the unit beginning in April. Unfortunately, heavy rains in late spring and beaver activity on Brushy Creek caused that unit to reflood. Boards were replaced in later October. The unit never fully dried, so it is unlikely that this management activity

impacted the lotus.

At Dahomey, beaver continue to be a major hindrance to water level management. RM Galvan and EO Roby repeatedly blew-up or dug out dams to keep water from backing into the forest during the growing season. The MMS ditch clean-out project completed last year made it considerably easier in that staff was able to get equipment to area they had not been able to previously. The 2 moist soil units (the DU units) on the south side of the Refuge were farmed in rice this year. After harvest in October, the boards were replaced and the unit pumped in November. On the north side of the Refuge, the 4 moist soil units were drained in late spring, units 9 and 12 were disked in mid-summer, and the boards in all units were replaced in October. The units were pumped in November.

Sixty-seven structures on 23 FmHA Tracts were boarded during the month of October in preparation for the fall rains. These structures will remain boarded until spring 2005.

3c. Graze/Mow/Hay

In August, in preparation for levee work on the catfish ponds at Coldwater River, EO's Ross and Roby mowed all pond levees. Additionally, the sides of the levees were mowed and shrubs removed with a boom axe on those ponds which were being refurbished (Ponds A – O). EO Ross also strip mowed the vegetation in ponds B, D, F, J, and K, and mowed patches of coffeeweed in pond H.

On Tallahatchie, STEP student Joelle Carney mowed fallow fields to set back succession. Areas she mowed include: Fields 36 and 50, roadsides, levees around the moist soil units behind the grain bins (units 25, 216, 27, 28, 30, and 31), and strip mowing within units 26 and 28. Additionally, EO Ross later mowed units 26 and 28 due to the robust growth of coffeeweed within those units. EO Perry mowed the levees at the Walker Tract in August.

On Dahomey, roadsides were mowed in June and again in August/September by volunteer Tom Wear in preparation for the hunting season. EO Roby mowed trails in August and September.

FmHA Tracts open to small game hunting were mowed by EO Perry in August in preparation for the hunting season. The Gillon Tract was also mowed in August. No haying operations were conducted on the Complex in 2004.

3d. Farming

No cooperative farming occurred at Coldwater River NWR during 2004. Five percent of the acreage (490 acres) at Dahomey and 18 % (741 acres) of the acreage at Tallahatchie was farmed this year (Table 8).

There were no changes in the amount of cooperatively farmed acreage at Tallahatchie from 2003

to 2004. About 30 additional acres in 2 moist soil units were planted in millet to help set back succession and maintain those units. In the future, we may seek ways to reduce the farming acreages on the refuges. However, for now farming continues to be an important tool in maintaining moist soil units in early successional stages and in providing “hot grains” for migratory waterfowl.

NMRC requires coop farmers to leave 25% of all crops planted or, in some instances, they perform services that enhance wildlife values. For example, at Dahomey the coop farmers have been reestablishing levees in rice fields after harvest and then flooding the fields using wells prior to migratory waterfowl arriving. The result is that at times thousands of waterfowl can be seen using these fields.

Table 8. Acreage Farmed and Crops Produced by Cooperative Farmers in 2004

Coop farmer	Refuge	Acres/crop	Refuge Share
Clemons	Dahomey	251/rice	Winter pumping rice fields
Herbison	Dahomey	239/rice	Maintenance and flooding an 80 acre moist soil unit
Strider	Tallahatchie	81/corn	100 % left in field
Strider	Tallahatchie	612/soybeans	Winter pumping and share of corn and millet left in the field
Strider	Tallahatchie	48/millet	100 % left in the field



**Photo 11. Snow geese in a soybean field at Tallahatchie NWR.
Becky Rosamond/USFWS**

3e. Forest Cutting

Nothing to report

3f. Prescribed Burning

WB Rosamond with assistance from Forester Lamar Dorris (Theodore Roosevelt NWR Complex), prepared a prescription to burn several acres of rice (as part of a research study with Mississippi State) and a 12 acre fallow field on Dahomey. Forester Dorris was to act as burn boss and the plan was approved. Unfortunately, heavy rains just prior to the scheduled burn date prevented burning the areas. At the present time, NMRC has 2 full-time employees and 2 temporary employees qualified to work a prescribed fire. No one on the NMRC staff is qualified as a burn boss.

3g. Control pest plants

Interns Little and Moore and STEP student Joelle Carney worked to control invasive plant species on Coldwater River NWR and the Walker Tract of Tallahatchie NWR.

In 2003, parrot feather (*Myriophyllum aquaticum*), an invasive exotic, was noted for the first time on the Walker Tract of Tallahatchie. In shallow water situations, parrot feather spreads rapidly and can completely take over a small water body in one season. This plant spreads by adventitious roots at the nodes as well as by fragments. For that reason, using any sort of mechanical method to control the plant is not advisable. Little, Moore and Carney mapped the extent of the infestation, then hand sprayed all located patches with Rodeo. Although the emergent vegetation initially died back, later site visits indicated that the submerged portion of the plant was not noticeably weakened by the herbicide.

Black willow (*Salix nigra*) is a common tree species throughout the Mississippi Delta, often colonizing drainage ditches and pond banks. Lack of disturbance in the moist soil units at Coldwater River NWR has led to the colonization of several of these ponds by the willows. Interns Little and Moore sprayed seedling willows in several ponds with Rodeo in an attempt to prevent willows from becoming established in these ponds. This species presents a constant struggle to try to maintain a balance of willow brakes for shelter, and high quality moist soil units for foraging.

Some species of plants can be controlled by altering the hydrology of a site. Lotus has become established on the Walker Tract as well as in one of the ponds at Coldwater River. NMRC staff drained the large water unit on the Walker Tract in an attempt to dry out the lotus and eradicate it. Unfortunately, beaver activity along Brushy Creek and heavy rainfall in the early summer limited the success of this method. NMRC staff also drained Pond V at Coldwater River in an

attempt to control the Lotus. This pond will be evaluated in 2005 to measure the success of this effort.

Other species which bear watching over the next

few years include: knotgrass (*Paspalum distichum*) – colonizing some of the catfish ponds on Coldwater, water primrose (*Ludwigia* spp.) – present in shallow water habitat; appears to be more dense and in more areas than in previous years; coffeeweed – always an issue in moist soil management; early drawdowns on the catfish ponds appeared to reduce the amount of germination; cocklebur – mostly an issue on the Tallahatchie moist soil units; an early drawdown may limit germination in this species as well; kudzu (*Pueraria lobata*) – currently found primarily along the banks of Tippo Bayou; appears that the annual flooding of the bayou may be keeping it in check; and cogongrass (*Imperata cylindrica*) – although this species has not been found on refuge property, it appears to be spreading north from the coast.



**Photo 12. Cocklebur (center) and coffeeweed (right) are two invasive plants which frequently grow in moist soil units
Becky Rosamond/USFWS**

4



Fish and Wildlife Management

4a. Bird banding

During the 2004 nesting season, 36 adult hen wood ducks and 1 adult hen hooded merganser were banded in nest boxes. Additionally, an effort was made to trap wood ducks using swim-in traps and floating traps from July through September as part of the pre-season banding program. This effort focused on Coldwater River NWR and was met with limited success. A total of 7 adult female, 2 adult male, 4 juvenile female, and 7 juvenile male wood ducks were banded at Coldwater. Although this trapping effort was more successful than last year, it does not approach the banding quota of 100 birds.



Photo 13. SCEP Carney and EO Philip Ross holding wood ducks captured in a swim-in trap at Coldwater River NWR
Becky Rosamond/USFWS

4b. Disease monitoring and treatment

Nothing to report

4c. *Reintroductions*

Nothing to report

4d. *Provide nest structures*

Interns Moore and Little were hired this year primarily to maintain and monitor wood duck boxes.

Without their efforts, the following data would not have been collected. Continued success of the nest box programs relies on being able to hire interns for the nesting season. Their contributions in 2004 were invaluable.



**Photo 14. Interns Sarah Moore (left) and Steven Little (right) worked diligently to monitor and maintain the wood duck nest boxes this year
Becky Rosamond/USFWS**

Eighty-six wood duck nest boxes were monitored throughout the 2004 nesting season. Boxes were checked approximately every 2 weeks through June and once in the fall to finalize the report. Hens were banded when encountered and the band numbers for previously banded hens were recorded. Percent nest box use remained similar to last year's with 93 % (80) of the available boxes used at least once by wood ducks. Fifty-three of the 86 boxes (62 %) were used at least twice. Dump nesting (where 2 or more hens lay eggs in the same box at the same time) continues to be a problem with 64 boxes containing more than 15 eggs at once. Dump nesting is particularly prevalent at Dahomey, where it appears that dump nesting and competition for nest boxes may be limiting the hatching success of the clutches. A number of dump nests were never incubated and eggs had to be cleaned out of nest boxes once it became apparent they would not be incubated. (Dahomey had more than twice as many eggs laid as last year, with only a slight

increase in the number of eggs that hatched.) The table below summarizes the results of the 2004 nesting season.

Table 9. Wood Duck Nest Box Success by Location

Location	Number of Boxes	Number Used by Wood Ducks	Number of Eggs Laid	Number of Eggs Hatched	Hatching Success
Coldwater River NWR	6	5	61	15	25 %
Dahomey NWR	35	35	1,403	362	26 %
Gillon	5	4	63	41	65 %
Harris	2	1	12	12	100 %
Pennington	4	3	102	67	66 %
Robertson	4	3	57	36	63 %
Tallahatchie NWR	16	15	389	172	44 %
Walker	8	8	300	77	26 %
Wilkins	6	6	259	129	51 %

In addition to successful use by wood ducks, nest boxes were successfully used by hooded mergansers, screech owls, wrens, and woodpeckers.

In addition to dump nesting, the other major cause of nest failure appears to be predation, primarily by gray rat snakes. Although all boxes are equipped with predator guards, dense or overhanging vegetation allows some snakes to reach the boxes. Predation appears to occur most frequently at Dahomey and Tallahatchie NWRs and at the Walker Tract.

Future efforts will focus on reducing the amount of egg predation, increasing the number of boxes (as staffing permits), relocating existing boxes to reduce dump nesting, and continuing to monitor the boxes frequently.



Photo 15. In addition to wood ducks, Carolina wrens (left), eastern screech owls (center) and northern flickers (right) all successful nested in wood duck boxes on Refuge properties
Left – Becky Rosamond/USFWS, Center and Right – Sarah Moore/USFWS

4e. Predator and exotic control

Nutria are abundant on many NMRC properties. They cause damage to levees and interfere with wildlife management activities. Nutria will readily enter swim-in traps and floating traps set for ducks to feed on the bait (corn). Once they are in the traps, ducks will not enter. Nutria are most frequently seen at the Walker Tract of Tallahatchie. WB Rosamond and Interns Little and Moore used conabear traps and a .22 rifle (Rosamond only) to dispatch a total of 39 nutria on the Walker Tract, 5 on Coldwater River and 2 on Tallahatchie NWR. The control efforts on Walker occurred primarily in the spring and early summer. Fewer nutria were observed during the summer trapping season than in previous years.

Beaver are common on NMRC properties and interfere with wildlife management activities by plugging culverts, ditches, and water control structures. During the spring and summer of 2004, NMRC staff cleared beaver debris from numerous water control structures and cleared beaver dams from streams and ditches to release ponded water.

Feral hog populations are apparently growing on many properties managed by NMRC. Sightings by staff and hunters are increasing annually. Hog activities cause damage to wildlife habitat, levees, roads, and crops of adjacent landowners. Also, feral hogs have the potential of spreading disease in humans. The shooting of feral hogs by permitted hunters during open hunting seasons is encouraged.



**Photo 16. Intern Little detonates explosives to blow a beaver dam on Coldwater River NWR
Hal Jones/USFWS**



Coordination Activities

5a. Interagency Coordination

- NMRC hosted and participated with NRCS, the MS State Forestry Commission, the State Extension Service, the Grenada Public Schools, and other volunteers in labeling and wrapping trees for the annual Arbor Day “Tree Giveaway Program” in Grenada County.
- WB Rosamond continued working with Dr. Ed Keiser and graduate students, from the University of Mississippi conducting herp censuses at the Starr FmHA properties in Quitman County.
- WB Rosamond continued working with the University of Memphis and the Mississippi Audubon Society, Strawberry Plains Audubon Center, to facilitate plantings and research of canebrakes on Dahomey NWR.
- NMRC is working with the U.S. Forest Service on pondberry (*Lindera mesilifolia*) research. Pondberry is found on one of the Conservation Easements managed by the NMRC.
- WB Rosamond has been participating in meetings with the Mississippi Black Bear Restoration Task Force. The task force includes representatives from the Service, USDA, MS Wildlife, Fisheries, and Parks and the Restore the Black Bear Conservation Committee.
- PL Gard coordinated with the Vicksburg District, Corps of Engineers who requested a perpetual construction R.O.W. on one of the Tribble Conservation Easement properties for their Upper Yazoo Flood Control Project. Coordination was also effected with the Jackson Ecological Services office, Region Realty staff and Interior’s Regional Solicitor in Atlanta.



Photo 17. Local citizens pick up their free tree Seedlings at the annual Arbor Day Tree Giveaway event
Kimberly Hayes/USFWS

- PLB Hayes participated as a member of the WRP ranking team with NRCS in Bolivar, Sunflower, Quitman, Leflore, Tunica, Coahoma, and Tallahatchie Counties.

5b. Tribal Coordination

Nothing to report.

5c. Private Land Activities

- Requests for private land projects again were popular as more people hear about the program. The program is making a significant effort to help implement projects within the Forest Breeding Bird Priority Zones as identified by the Lower Mississippi Valley joint Venture's Decision Support Mode.

Table 10. Summary of Fiscal Year 2004 Accomplishments for the Private Lands Program

Project Name	Program	Wetland (ac)	Upland (ac)	Total Acres
Audubon Strawberry Plains	PFW	19	212	231
Elliot Lake	PFW	350		350
Gregory Properties	MP	25		25
Herbert 04	PFW	5		5
Miller 04	PFW	18.5	25	43.5
Taylor 04	PFW	43	37	80
TOTAL		460.5	274	734.5

5d. Oil and Gas Activities

Nothing to report.

5e. Cooperative/Friends Organization

The newly formed Friends of Dahomey hit the ground running this year. Five members along with RM Galvan attended the Southeast Region's Friends Conference in Monroe, LA, which was hosted by the Friends of Black Bayou NWR. In March, the Friends of Dahomey sponsored a volunteer workday where students from Vanderbilt University and Millsaps College volunteered to work during their spring break. The Friends also were awarded a \$5,000 start-up grant from the National Fish and Wildlife Foundation. Some of the money from this grant was used to design a logo, purchase a banner, design and print a brochure, and to design a website. The Friends also set up a booth at the Octoberfest Celebration in Cleveland, MS. In December, the Friends sponsored a Christmas Bird Count in Bolivar County. The highlight of the count was the unconfirmed sighting of a Ruddy Ground Dove near the eastern boundary of the refuge.

6

Resource Protection



6a. Law Enforcement

The Law Enforcement program at the Complex was spread thin in 2004. There were only 2 dual function officers to patrol 3 refuges and 128 FmHA properties in 22 counties in northern Mississippi. Although Martin Holloway transferred to NMRC in November, at the time of this writing, a determination has not been made whether Martin will receive his commission based on past training completed at the Mississippi and Louisiana state law enforcement academies as well as the Federal Law Enforcement Training Academy where he completed training and was commissioned as an Agent with the Border Patrol.

The following are the station law enforcement highlights for 2004.

- Station RO's and RO's from Theodore Roosevelt Complex and Noxubee NWR conducted firearms qualifications at NMRC's small arms range.
- The Grenada County Sheriff's office, the City of Grenada Police Department and the City of Winona Police Department also used NMRC's small arms range for their quarterly weapons qualification.
- The Mississippi Department of Wildlife, Fisheries and Parks Division of Law Enforcement personnel used NMRC's conference room and small arms range to conduct four hunter safety classes.
- PL Gard and RM Galvan completed LE in-service training at the Lively Training Center at Quincy, Florida.
- During 2004, 1 vehicle was abandoned and burned on Dahomey
- RO Galvan completed a two day LE detail at Hillside NWR during their primitive weapon deer hunt.

Table 11. Law Enforcement Violations Reported by NMRC During 2004

Code	Violation Description	Number of Violations
20.24	Take Migratory Game Birds in Excess of the Daily Bag Limit	1
26.21(a)	Trespass by Person on a NWR	4
23.31	Travel in or Use a Vehicle on Other Than Designated Route of Travel	1
32.3(a)	Hunting Without a State License	1
32.2(e)	Hunt in Violation of Special Access Requirements	8
32.2(f)	Failure to Comply with Special Hunting Regulations	15

6b. Wildfire Preparedness

NMRC has 2 full-time employees and 1 temporary employee who are qualified to participate in wildfires. No staff members were deployed in 2004 to assist with wildfires.

6c. Manage Permits and Economic Uses

Nothing to report.

6d. Contaminant Investigations and Cleanup

Nothing to report.

6e. Manage Water Rights

Nothing to report.

6f. Manage Cultural Resources

Nothing to report.

6g. Federal Facility Compliance Act

Nothing to report

6h. Land Acquisition

Nothing to report.

6i. Wilderness and Natural Areas

Nothing to report.

6j. Threats and Conflicts

Nothing to report.



Public Education and Recreation

8a. Provide Visitor Services

- For the 2004-2005 hunting season, four new FmHA properties were opened to small game hunting bringing the total acreage of huntable FmHA lands to 3,500 acres. The newly opened tracts include Watts, 213 acres in Bolivar County, Scott 90 and 80 acres and Gwin 343 acres in Leflore County and Walker, 42 acres in Sunflower County.
- Also for the 2004-2005 hunting season, the Warwick Tract of Coldwater River NWR was opened for migratory waterfowl hunting only.
- The 2004-2005 refuge youth hunts, which in the past have been conducted the same days as the state's youth hunts, were changed to fall within the state's regular hunting season for that specific species. Youth hunts were held on Dahomey and Tallahatchie NWR's for deer (December 26th & 27th), squirrel (Oct 9th & 10th) and turkey (April 2nd & 3rd, Dahomey NWR only). Youth waterfowl hunts were held on the same day as the state's hunt.
- This year the hunting and fishing permits were combined into one permit for \$12.50. The permit system was updated with a computer-generated program entitled DRAW. This program was designed by RO Carnathan from the Theodore Roosevelt Complex in Mississippi. The permits, which now fit into a small wallet, have been well received by permit purchasers. The program tracks all sales and stores names, addresses, etc.
- The 2005-2005 Hunting and Fishing Regulations brochure was updated with revised text and maps.
- The Dahomey office was open five Saturdays throughout September, October and November in an effort to give local hunters an opportunity to purchase hunting and fishing permits on weekends.
- WB Rosamond presented a program to Delta State University's Conservation Biology class. As part of the program, students are currently involved in hands-on field exercises at Dahomey.
- Twenty-five students from Vanderbilt University and Millsaps College participated in a volunteer work day at Dahomey NWR. Students were joined by volunteers from

Friends of Dahomey who provided lunch and assistance in building bluebird boxes, constructing raised flower beds and planting shrubs to beautify the Dahomey office compound.

- RM Galvan presented an education program to 17 Cub Scouts in an effort to help them earn a merit badge in forestry.
- RM Galvan also gave a tour of Dahomey to students from Delta State's Social issues in Conservation class.
- The following table presents harvest data for the 2003-2004 hunting season at Dahomey and Tallahatchie NWR's as reported on the hunter use cards.

Table 12. Harvest Data, 2003-2004 Hunting Season

Species	Dahomey	Tallahatchie	Total	Crippled
Deer (Buck)	25	7	32	5
Deer (Doe)	11	1	12	0
Turkey	0	0	0	0
Squirrel	682	19	701	66
Rabbit	3	12	15	0
Raccoon	5	6	11	0
Woodcock	0	1	1	0
Wild Hog	4	0	4	2
Mallard	10	69	79	10
Wood Duck	28	20	48	4
Gadwall	2	35	37	1
American Widgeon	0	2	2	0
Teal	0	13	13	1
Other	16	21	37	0
Shoveler	0	2	2	0
Hooded Merganser	0	3	3	0
Snow Goose	0	2	2	0
Other	16	21	37	0

8b. Outreach

- PLB Hayes and ARM Hayes participated as judges for the Grenada Middle School Science Fair.

- PL Gard, WB Rosamond, EO's Perry and Jones, RM Galvan, ARM Hayes, and OA Willis staffed the NMRC booth at the Strawberry Plains Audubon Center Hummingbird Festival in Holly Springs, MS. Over 5,000 people attended this event and everyone enjoyed free posters, stickers, coloring books, wildlife mounts, and brochures. In addition to our displays, the Service's Private John Allen National Fish Hatchery brought their traveling trailer aquarium to the event and people of all ages enjoyed identifying Mississippi's native fishes.
- WB Rosamond presented a program entitled "Herps of Mississippi" at the Hummingbird Festival.
- The staff of NMRC hosted their first Kids' Fishing Rodeo in September. The event was held in partnership with the City of Grenada and one of their city park ponds was used for the event. Private John Allen Fish Hatchery supplied over 700 catfish for the event. Over 75 kids participated with over 175 total attendees including friends and family. Goody bags and door prizes were given out and everyone enjoyed the morning's events. Sponsors for the event included: Pro Lures Tackle, McAlister's Deli and Spain's Supermarket.



Photo 18. PL Gard hands out posters at the NMRC booth at the Hummingbird Festival hosted by Strawberry Plains Audubon Center in Holly Springs
Kimberly Hayes/USFWS



Photo 19. A young angler shows off his big catch of the day at the Grenada Kids' Fishing Rodeo
Kimberly Hayes/USFWS



Photo 20. Participants gather around the hot fishing spot during the Kid's Fishing Rodeo
Kimberly Hayes/USFWS

- In June, the NMRC staff assisted Private John Allen Fish hatchery with their annual fishing rodeo which attracted over 250 kids.
- WB Rosamond presented a program on migratory waterfowl and the National Wildlife Refuge System to 180 fifth graders at the NRCS Conservation Carnival.
- Interns Moore and Little participated in the BioBlitz held at Grand Bay NWR.
- PL Gard presented a program on NMRC to the Grenada Rotary Club.
- RM Galvan, RM Barkley and EO Roby in partnership with the Friends of Dahomey staffed the Service booth at the Cleveland, MS, Oktoberfest.
- RM Galvan presented a program on Dahomey NWR at the Friends of Dahomey membership drive party.
- ARM Hayes participated in the Regional Envirothon Competition. Eighteen high school teams of 6 competed in Forestry, Wildlife, Aquatics, Soils, and Current Events. Partners included the MS Soil and Water Conservation Commission, NRCS, Holmes Community College, and the MS Department of Wildlife, Fisheries and Parks.
- NMRC hosted along with NRCS, MS Forestry Commission, and the Grenada Elementary School the annual Grenada Arbor Day Tree Giveaway.
- RM Galvan staffed the Service exhibit at the Bolivar County 4-H Wildlife Jamboree in Cleveland, MS. About 80 people visited our exhibit.

Additional Highlights

- ARM Hayes, WB Rosamond and STEP Carney attended the MS Bat Working meeting at Noxubee NWR.
- ARM Hayes assisted the staff at Private John Allen Hatchery collecting alligator gar at St. Catherine Creek NWR and paddlefish in Six Mile Lake. Six Mile Lake is downstream and connected to Tallahatchie NWR. The paddlefish collected were part of a Gulf Coast Research Laboratory parasite study. Of the 13 paddlefish caught, 11 in the 35-40 pound range were retained for study.



Photo 21. WB Rosamond looks on as A. Shermann prepares to take measurements on the bat
Kimberly Hayes/USFWS

Additionally, a big-headed carp, the first record of that fish in the Six Mile Lake system, was caught and retained.



**Photo 22. ARM Hayes assist
Private John Allen Fish
Hatchery with paddlefish
collection**
Ricky Campbell/USFWS

- NMRC hosted the statewide Hunt Plan Proposal meeting with the MDWFP. Representatives from each of the NWR's in MS attended along with state personnel. After the meeting, homemade gumbo prepared by EO Chris Lea was served to all those in attendance.
- WB Rosamond participated in the Atlantic Flyway wingbee held at Patuxent Research Refuge in Laurel, MD. Hunters send in wings from waterfowl harvested within the flyway and biologists determine the sex and age ratios of the harvest for the flyway. These data are used to help determine future waterfowl hunting seasons.

**Photo 23. WB Rosamond
inspecting the wing of a
green-winged teal at the
Atlantic Flyway Wingbee**
*Malcolm
Livingston/USFWS*



- Interns Little and Moore participated in the Woodcock wingbee held at Tara, near Vicksburg, MS.

- OA Willis represented the Service at the Alcorn State University Career Fair in October.

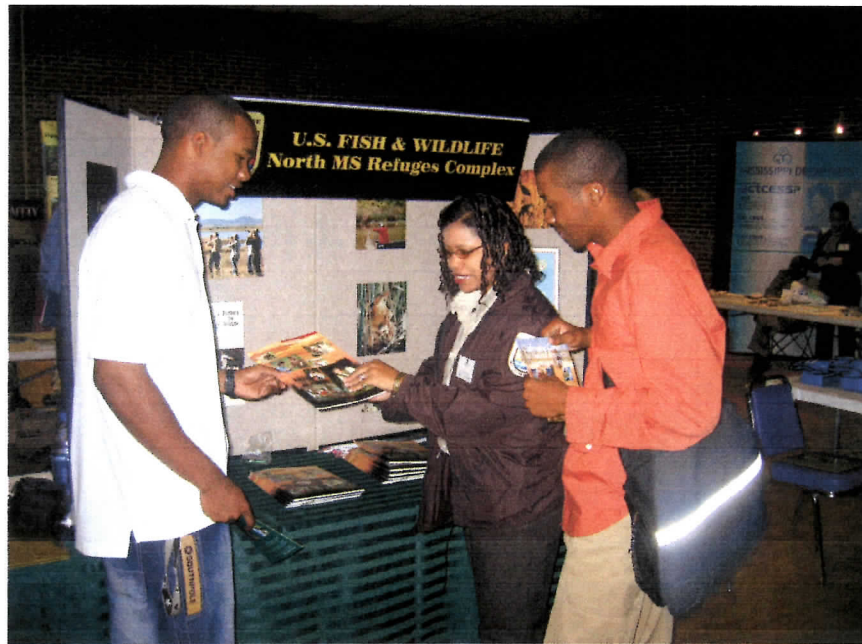


Photo 24. OA Willis returns to her *Alma Mater* and represents the USFWS at the Alcorn State University Career Fair
USFWS



Planning and Administration

9a. Comprehensive Management Planning

- The Draft Comprehensive Conservation Plan with Environmental Assessment and Compatibility Determinations was completed in September and sent to Atlanta for internal review.
- The 2004 Annual Habitat Work Plan (AHWP) was completed in May. The AHWP for 2005 is due in January, 2005. In conjunction with developing a CCP, NMRC staff is in the process of developing a guiding Habitat Management Plan for the Complex. This plan should be completed in 2005.

9b. General Administration

The following table shows NMRC funding for 2004:

Table 13. FY 2004 Funding Allocations for NMRC.

Program	Accounting Code	Allocated
Refuge Operation	1261	\$ 610,900
MMS	1262	651,400
Private Lands	1121	212,200
TOTAL		\$1,474,500

During 2004 NMRC experienced the following changes in staff:

- ARM Kimberly Hayes was reassigned from the Park Ranger series.
- Chris Lea and Jimmy Perry were again hired as 1040 hour Equipment Operators. Additionally, Philip Ross was hired under this program for 2004.
- Park Ranger Martin Holloway transferred to NMRC from the Department of Homeland Security, U.S. Border Patrol, Tuscon, AZ, where he was working as a Border Patrol Agent.
- Sarah Moore and Steven Little were hired as student Interns during the summer of 2004.
- Joelle Carney was hired as a STEP employee during the summer of 2004.



Photo 25. STEP Carney (left), Intern Little (center), and Intern Moore (right)
Left – Hal Jones/USFWS, center – Becky Rosamond/USFWS, right – Steven Little/USFWS

Table 14. Staff List for NMRC 2004

Permanent Full-Time Employees	Grade	EOD Date
Stephen W. Gard; Project Leader	GS-13	10/08/89
Robert Barkley; Refuge Manager	GS-12	05/28/92
Alejandro Galvan; Refuge Manager	GS-12	10/07/01
Kimberly Hayes; Assistant Refuge Manager	GS-9	11/16/03
Rebecca Rosamond; Wildlife Biologist	GS-12	02/03/01
Chuck Hayes; Private Lands Biologist	GS-12	11/16/03
Martin Holloway; Park Ranger	GS-7	10/31/04
Bobbie Willis; Office Automation Assistant	GS-7	09/28/98
Don Roby; Engineering Equipment Operator	WG-9	05/02/02
William Jones; Engineering Equipment Operator	WG-9	08/08/94
Temporary Employees	Grade	EOD Date
Chris Lea; Engineering Equipment Operator	WG-8	08/13/03
Jimmy Perry; Engineering Equipment Operator	WG-8	01/05/99
Phillip Ross; Engineering Equipment Operator	WG-8	05/30/04
Joelle Carney; STEP Student	GS-5	05/16/04

The NMRC Staff



Stephen Gard
Project Leader



Robert Barkley
Refuge Manager



Alejandro Galvan
Refuge Manager



Becky Rosamond
Wildlife Biologist



Chuck Hayes
Private Lands
Biologist



Kimberly Hayes
Assistant Refuge
Manager



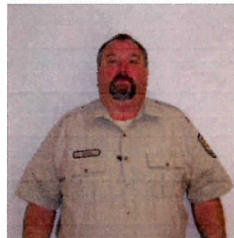
Bobbie Willis Office
Automation Assistant



Hal Jones
Equipment
Operator



Don Roby
Equipment
Operator



Chris Lea
Equipment
Operator



Jimmy Perry
Equipment
Operator



Philip Ross
Equipment
Operator



Martin Holloway
Park Ranger

Work Programs

- The Youth Conservation Corps (YCC) was again a success. We employed 4 young men who completed a variety of projects including: mowing, boundary posting, installing entrance signs, fixing gates, building a lumber storage shed and general maintenance. Also we employed 1 young woman who helped with administrative duties. The YCC participants were supervised by ARM Hayes.
- YCC participants for 2004 were Jennifer Whitten, Jonhathan Morgan, Adam Lea, Jason Anderson, and A. J. Fagan. Their help was greatly appreciated.

Equipment and Facilities

The following are significant equipment purchases that were made during 2004:

- 18 in (406MM) Heavy Duty John Deere Excavator
- 6X6 Argo Conquest-Tundra
- HPX 4X4 Trail John Deere Gator

Additional Administrative Highlights for 2004

- OA Willis completed the IDEAS-Procurement Desktop training at the RO in Atlanta
- Conducted at Noxubee NWR, ARM Hayes, RM Barkley and OA Willis completed Microsoft Word 2002 Levels 1 and 2 courses presented by New Horizons Computer Learning Centers.
- OA Willis completed Small Purchase Descriptions and Work Statement Self-Study Course presented by Houseman and Associates Procurement Training and Consultants.
- FFS regional coordinator Donna McElwee conducted a FFS training course at NMRC.

CREDITS

Alejandro Galvan:	2a, 2b, 5e, 6a, proof reading
Becky Woods:	1a, 1b, 2a, 2b, 3a, 3b, 3c, 3e, 3f, 3g, 4a, 4b, 4c, 4d, 4e, 6b, 6c, 5c, technical assistance
Robert Barkley:	Introduction, 5a, 5b
Steve Gard:	proof reading
Bobbie Willis:	9b, proof reading
Chuck Hayes:	2a, 2b, 5c
Kimberly Hayes	8a, 8b, technical assistance
Hal Jones	2a, 2b